

OCEANOGRAPHIC FACTORS RELATING TO THE DISPOSAL  
OF DREDGED MATERIALS IN LONG ISLAND SOUND"

1. Physical and Chemical Characteristics of the Waters Adjacent  
to the New Haven Dredge Spoils Disposal Site

Data Report 1972-1973

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Oceanographic Factors Relating to the Disposal of Dredged Materials  
in Long Island Sound

1. Physical and chemical characteristics of the waters adjacent to the New Haven dredge spoils disposal site, Data Report 1972-1973.

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A. Introduction

The proposal by the New England Division of the U. S. Army Corps of Engineers to dredge the main channel of New Haven Harbor to a depth of 35 ft. will require the removal of approximately 800,000 cubic yards of sediment. The dredged spoils are to be deposited on the New Haven dump ground (Fig. 1). To assess the impact of this disposal operation on central Long Island Sound, an extensive investigation of the physical, chemical, biological, and geological characteristics of the dumpsite and the adjacent waters was initiated in July 1972. Primary emphasis during the first year of this project has been placed on the acquisition of baseline data sufficient to establish the oceanographic characteristics of the area prior to the disposal operation. Portions of the geophysical and biological investigations have been published (Gordon *et al.*, 1972; Rhoads 1973a, 1973b). This report represents a summary of the physical and chemical characteristics observed during 1972-1973.

B. Study Area

The designated New Haven dump ground is a two square mile area

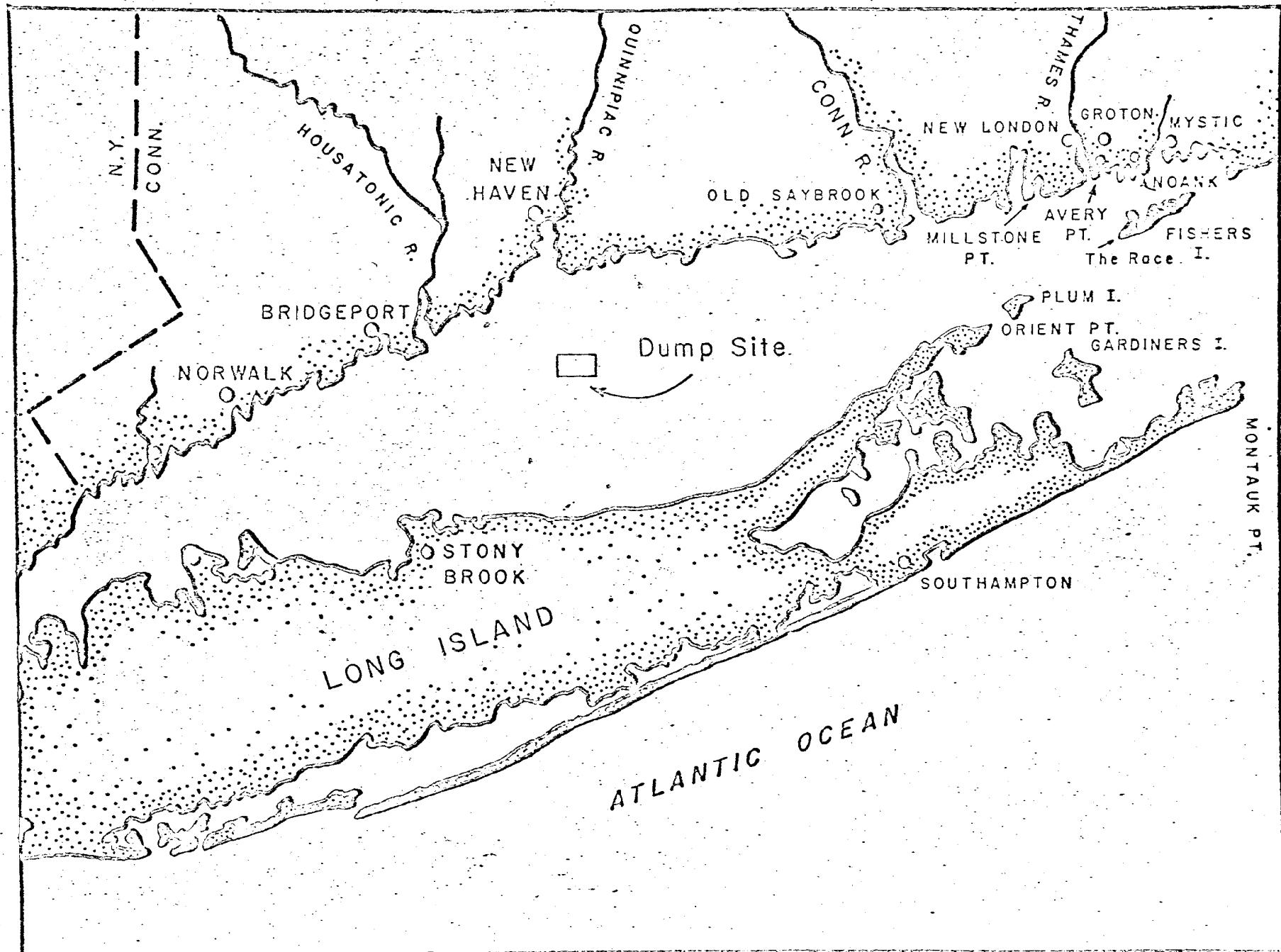


Fig. 1. Location of New Haven Spoils Disposal Site

located approximately six miles to the southeast of New Haven Harbor in Long Island Sound (Fig. 1). Water depths at this site range between 62 and 70 ft. at mean low water. The grounds have been used extensively as a disposal site (Table I). The most recent major use was in 1965 when dredging of New Haven Harbor required the disposal of 260,000 cubic yards of spoil material.

To provide a standard of comparison for use in the future environmental impact assessments, a one square mile control site was established 1.0 mile (center to center) south of the dump ground. Subsequent benthic sampling indicated that this area had been contaminated by "long dumps" during previous disposal operations (Rhoads, 1973). This situation resulted in the establishment of a second control site located approximately 2.0 miles northwest of the dump grounds (Fig. 1).

Each of the control sites and the dump ground have been buoyed to facilitate navigation within the study area. In addition, the dump site buoy is intended to provide the navigational reference during the disposal operations. Dumping is to be confined to the immediate vicinity of this buoy.

TABLE 1  
 HISTORIC SUMMARY OF  
 MAINTENANCE DREDGING  
 NEW HAVEN HARBOR, CONNECTICUT  
 1930-1968

Year	Location	Quantity Removed (Cubic Yards)
1968	35-ft. Main Channel	2,150
1967	Mill River	94,000
1967	Quinnipiac River	55,000
1964	West River	80,000
1964	Main Channel	260,000
1960	Mill River	29,000
1958	35-ft. Main Channel	201,000
1957	West River	66,000
1957	35-ft. Main Channel	690,000
1957	Main Channel	142,000
1955	Quinnipiac River	153,500
1950	Mill and West Rivers	181,000
1946	West River	330,000
1945	30-ft. Main Channel	183,500
1942-1941	Entrance Channel	8,800 (ledge/ rock)
1941	15-ft. anchorage, Brewery St. Channel and Quin- nipiac River	251,500

Source: Final Environmental Impact Statement  
 Maintenance Dredging  
 New Haven Harbor, Connecticut  
 Dept. of the Army; New England Division;  
 Corps of Engineers. June 1973.

### C. Methods and Procedures

#### 1. Sampling routine

To detail the physical and chemical characteristics of the waters adjoining the New Haven dump ground, a fifteen-station network was established (Fig. 2). These stations have been sampled monthly since July 1972. At each, five liter Van Dorn bottles were used to obtain drawn water samples at near surface, mid-depth, and near bottom locations. Samples used for bacterial analyses were obtained using a Niskin sterile bag sampler (Niskin, 1962) for the deep samples while surface waters were sampled directly by immersing a sterile bottle mounted in a long-handled holder. This apparatus allowed sampling at some distance from the boat and reduces the possibility of contamination.

Approximately eight hours were required to complete the survey. No effort was made to sample a specific tidal phase.

All samples were returned to the laboratory for analysis. Only sample temperature was obtained in situ.

#### 2. Navigation

Ship's position was generally obtained using the combination of radar range and visual bearings on known landmarks or the navigational buoys located within the study area. These techniques provide an estimated position accuracy of  $\pm 0.15$  nm over the dumpsite or in the immediate vicinity of a navigational buoy. Accuracy decreases to  $\pm 0.3$  nm at the outer stations (Nos. 7, 9, 10, 14).

During the fall of 1972 a microwave navigational system (Cubic

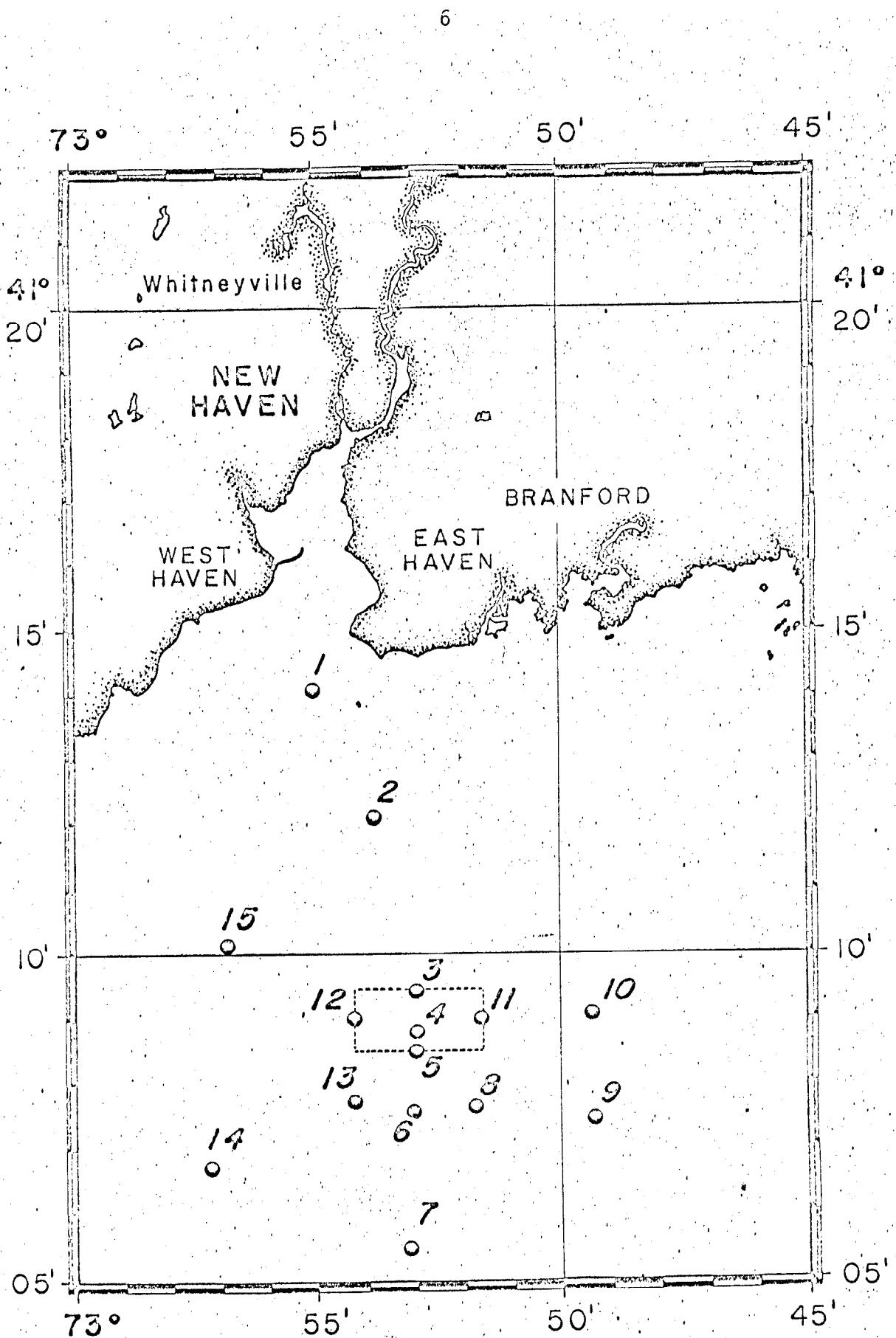


Fig. 2. Station Locations

Corporation, Autotape) was made available by the U. S. Army Corps of Engineers. This system was used to survey in the dump and control site buoys and to precisely locate the benthic sampling stations (Rhoads, 1973a, 1973b). System accuracy is estimated to be in excess of  $\pm 0.5 \times 10^{-3}$  nm.

### 3. Analytical Methods

#### a. Sample temperature

Surface water temperature was determined using standard laboratory thermometers ( $\pm 0.1^{\circ}\text{C}$ ). Temperature profiles over the vertical were obtained using an in situ thermistor probe (Hydrolab Corporation, accuracy  $\pm 0.7^{\circ}\text{C}$ ) supplemented by a mechanical bathy-thermograph ( $\pm 0.5^{\circ}\text{C}$ ).

#### b. Sample salinity

The salinity of each drawn water sample was determined using an induction salinometer (Beckman Model RSB7). Measured conductivity was converted to salinity by comparison with Copenhagen Standard Sea Water.

#### c. Dissolved oxygen

Standard Winkler titration analysis was used to determine the dissolved oxygen content of all samples. Samples were fixed in the field and acidified immediately prior to titration. All analyses were completed within forty-eight hours.

#### d. Biochemical oxygen demand

Five day BOD was determined using Winkler titration analysis after incubation of the samples at  $20^{\circ}\text{C}$  in a light-free environment.

Procedures followed Standard Methods (APHA et al., 1971). The samples required no dilution.

e. Orthophosphate content

The orthophosphate content of all samples was determined using the stannous chloride method (APHA et al., 1971). Turbidity blanks were run on all samples to provide an indication of the degree of interference due to suspended particulate matter and coloration introduced by water mass variations. In addition, indicated phosphate levels were corrected for salinity induced variations. Corrections were based on comparative measurements using samples with known phosphate content prepared at several values of salinity. Indicated levels using the stannous chloride technique were compared to those obtained using the ascorbic acid method. This latter technique, being essentially insensitive to sample salinity (Murphy and Riley, 1962), provides the standard for comparison. Indicated errors were plotted as a function of salinity and the resultant curve was used in the correction of all orthophosphate measurements.

f. Nitrate content

Nitrate content was determined using the modified copper-cadmium column method detailed in Strickland and Parsons (1968). All measurements were corrected for nitrite content and turbidity interference. Sample filtration was not necessary.

g. Suspended material concentration

Total suspended material concentrations were determined by laboratory vacuum filtration of the drawn water samples. A minimum

volume of one liter from each sample was filtered using dried and preweighed silver membrane filters (47 mm-0.45 $\mu$ ) mounted in a glass Millipore apparatus (Millipore Corporation). At the completion of filtration, filters were thoroughly washed with distilled water to remove salts, then again dried and reweighed to determine the by-weight concentration of total suspended solids. All samples were filtered within 48 hours of their acquisition. Prior to analysis samples were stored in a chill room (3-5 $^{\circ}$ C). These procedures are expected to provide estimates of material concentrations accurate to within  $\pm$  0.5 mg/l.

#### D. Results and Conclusions

##### 1. Water temperature characteristics

The spatial and temporal characteristics of the water temperature distribution in central Long Island Sound have been extensively detailed in previous investigations (Riley, 1956, 1959; Hardy, 1970, 1972; Hardy and Weyl, 1970; Gordon *et al.*, 1972). Data obtained in this study showed the thermal characteristics of the study area to be essentially identical to those previously reported. Maximum temperatures occurred in August with minima observed in late January or early February. Temperature range was a maximum at the near shore station (No. 1) where seasonal variations in surface temperature exceeded 23 $^{\circ}$ C. Variability decreases at the offshore station and averages approximately 20 $^{\circ}$ C over the dumpsite (Fig. 3). Thermal behavior was similar at all offshore stations (Fig. 4). A thermocline was in evidence throughout the study area from March

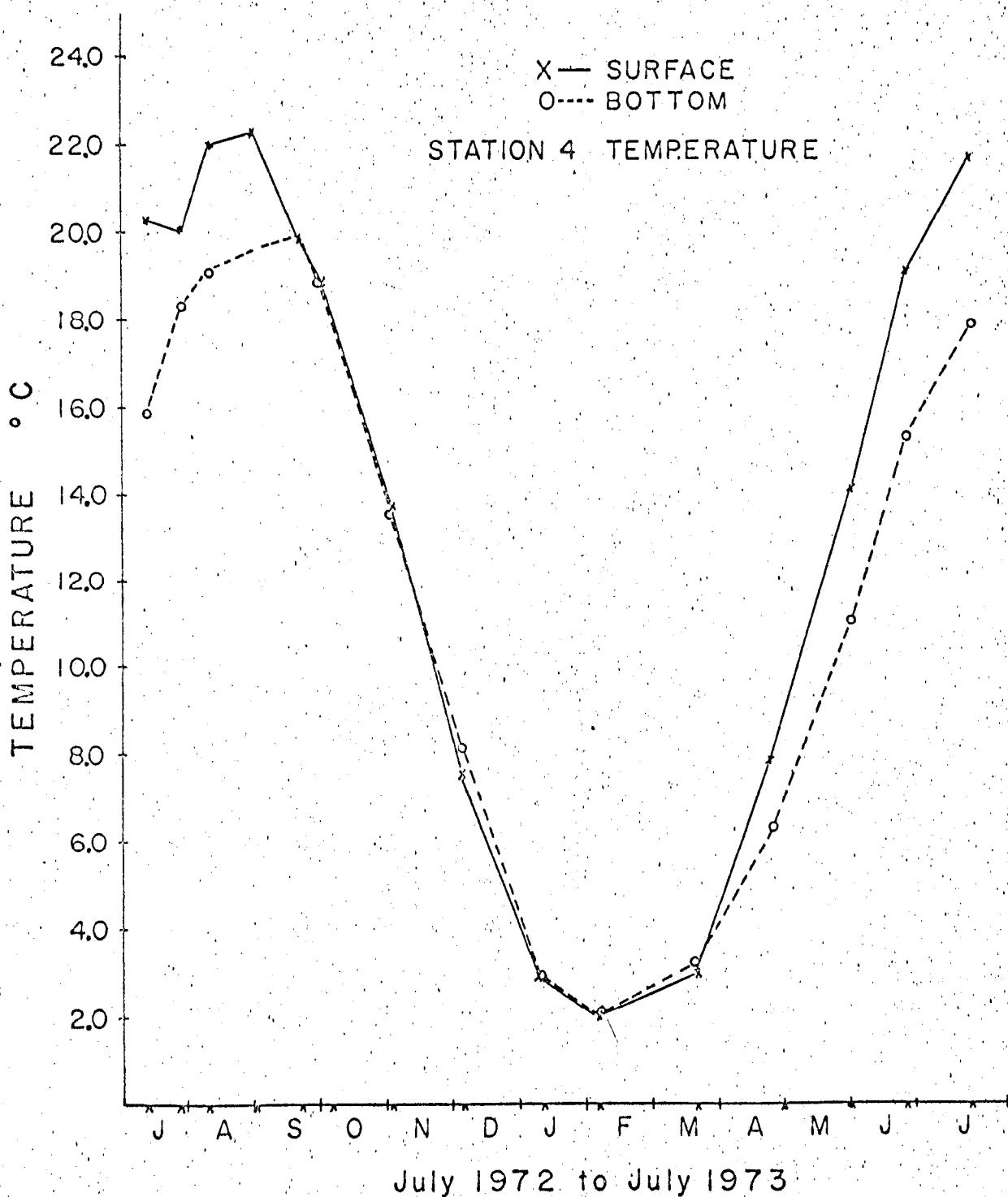


Fig. 3. Water Temperature Characteristics Over New Haven Spoils Disposal Site

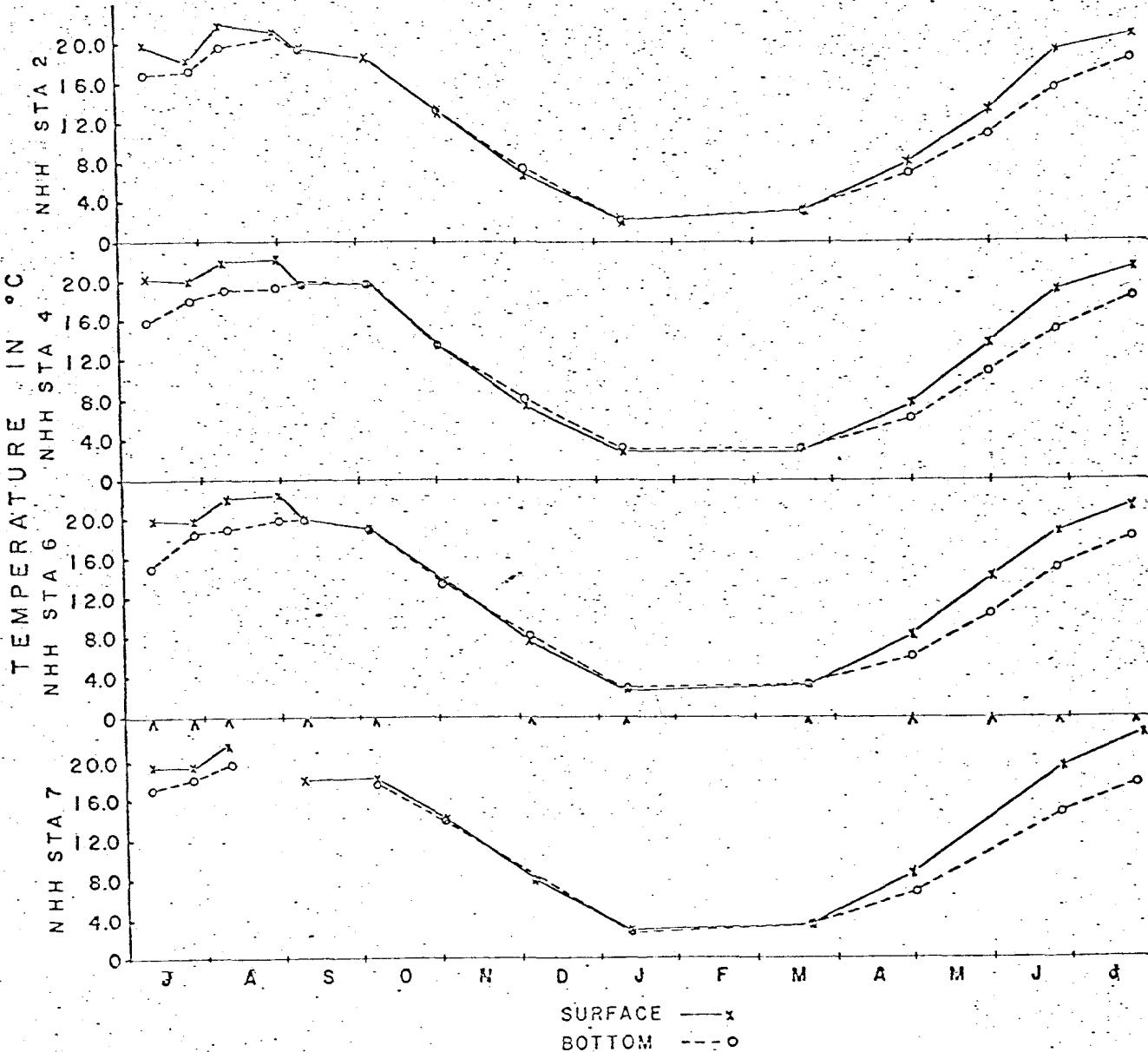


Fig. 4. Water Temperature Characteristics  
North-South Transect - Central Long  
Island Sound.

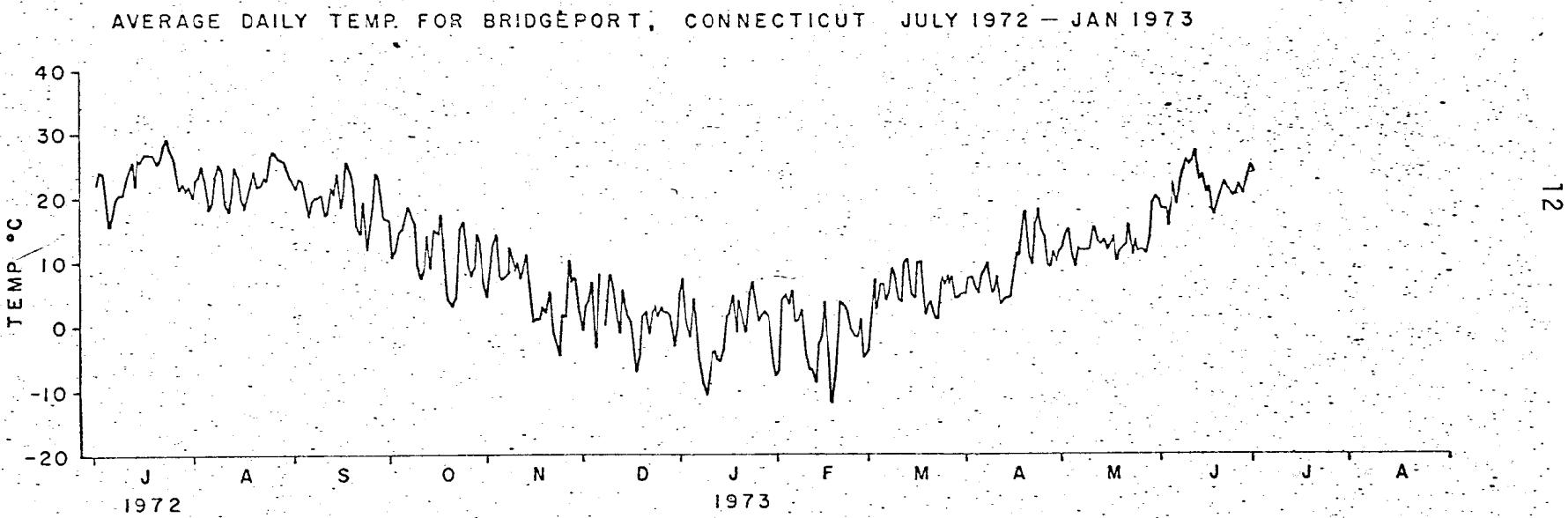


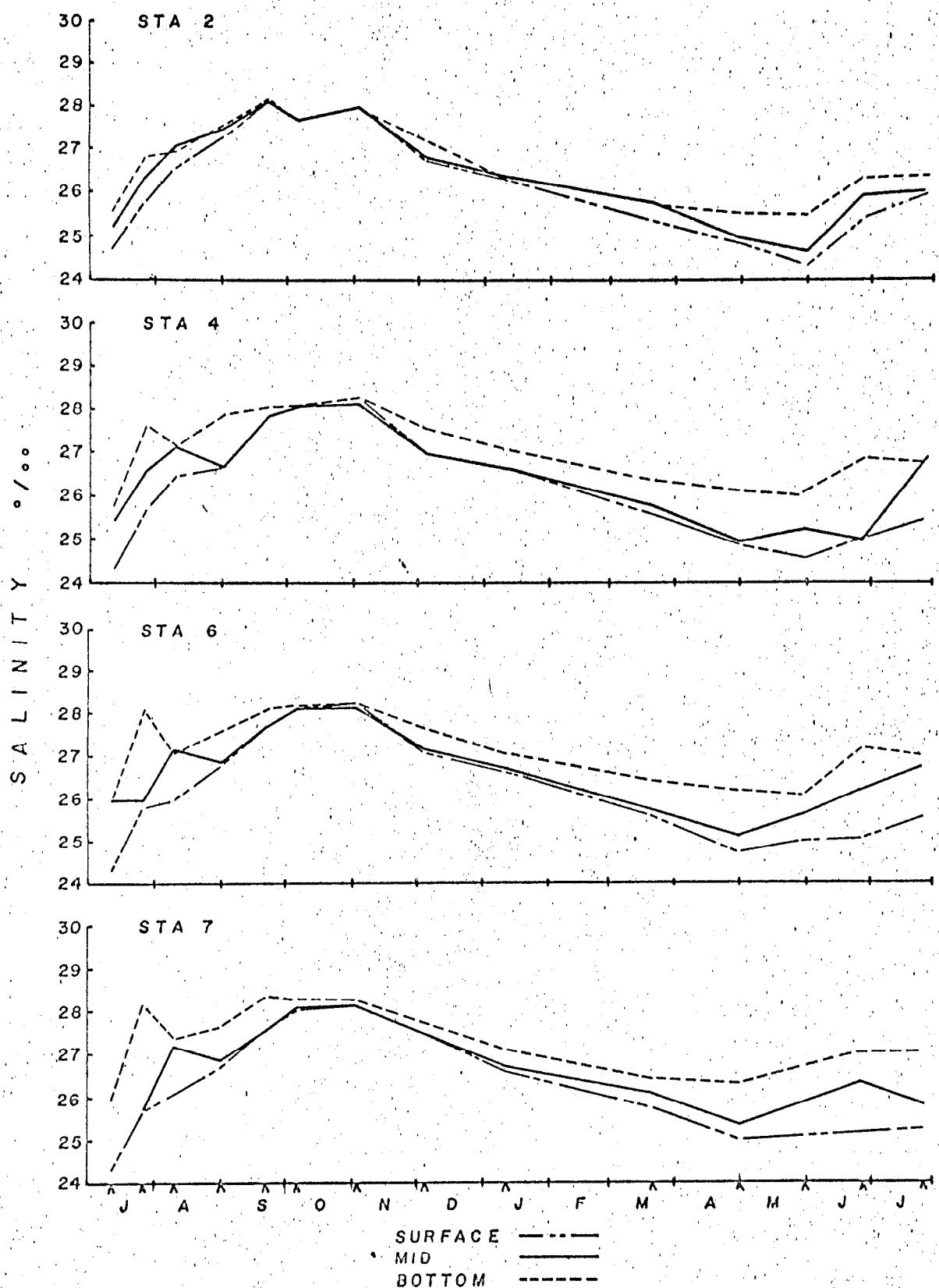
Fig. 5. Air Temperature Characteristics.  
Bridgeport, Connecticut

through September while fall and winter months are characterized by nearly isothermal conditions. Finally, despite the appearance of several thermal inversions (see Fig. 3, e.g.) the water column remained stably stratified throughout the period of observation. The degree of stratification varies seasonally and tends to reach a maximum during the early summer months.

Water temperatures in central Long Island Sound are governed primarily by local air temperature. The shallow waters and energetic wind and tidal mixing characteristic of the central Sound cause the water column to respond rapidly to variations in air temperature. As a result the seasonal cycle in air temperature (Fig. 5) becomes an accurate indicator of the low frequency temporal variability of water temperature. High frequency fluctuations in air temperature tend to be filtered out by the thermal mass of the water column. Observations indicate an average time constant for the water column of approximately three days. Higher frequency fluctuations will affect surface water temperatures but will exert negligible influence on the deep or near bottom waters.

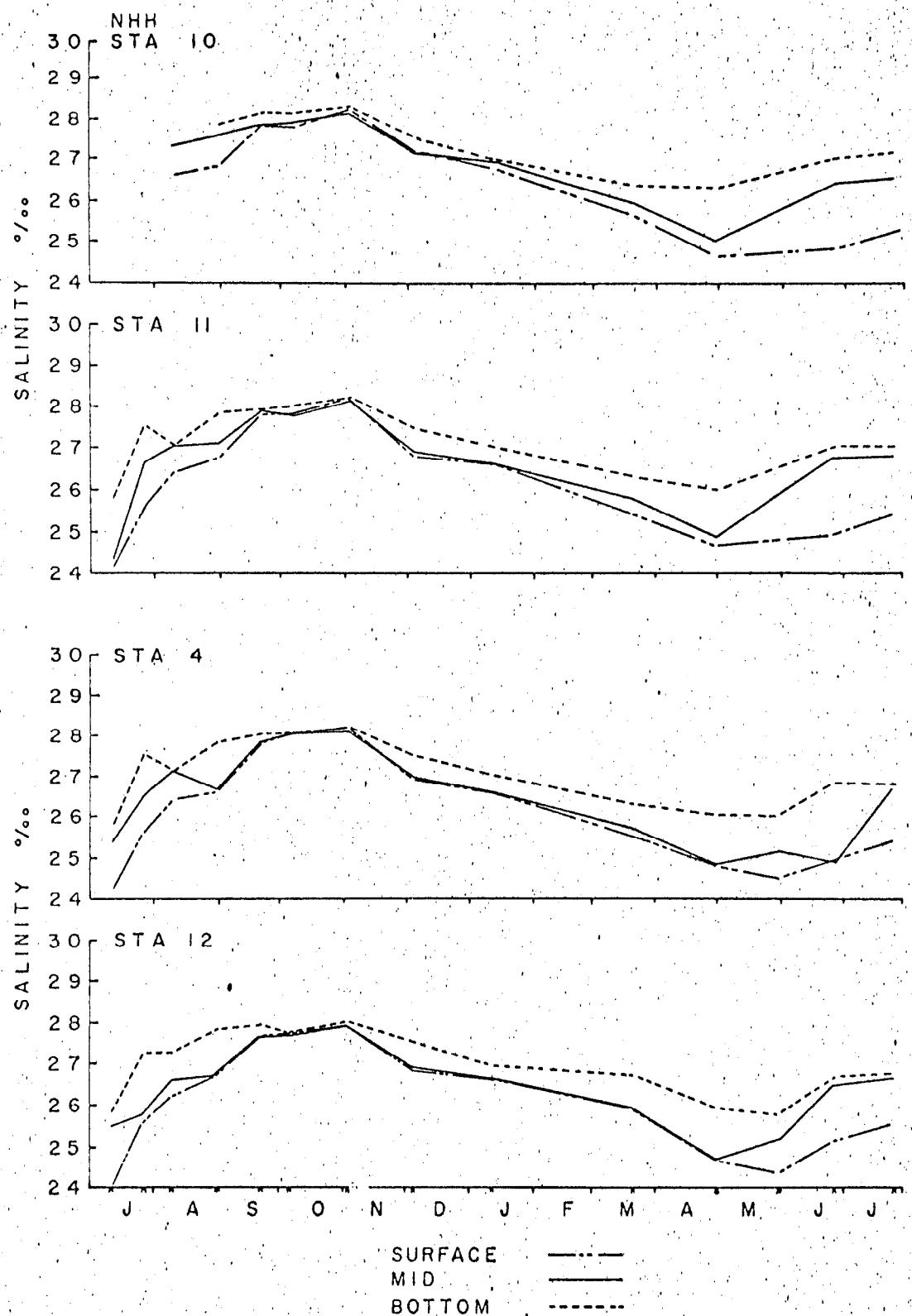
## 2. Salinity characteristics

The salinity distribution within the study area displays an evident seasonal variability (Figs.6-7). At both the shallow and deep water stations maximum salinities were observed during October 1972 with minima occurring during April and May 1973. Annual salinity range is a maximum in the surface waters with variations exceeding 3<sup>0</sup>/oo.



July 1972 to July 1973

Fig. 6. Monthly Salinity Distribution North-South  
Tyrone Pt., Calif., 1972-1973



July 1972 to July 1973

Fig. 7. Monthly Salinity Distribution East-West Transect - Central Long Island Sound

Annual range decreases with depth and averages 2<sup>0</sup>/oo in the near bottom waters. The magnitude of the seasonal variability is determined primarily by the volume of freshwater discharge from the major Connecticut rivers. Groundwater inflow and secondary streamflow exert only local and often negligible influence. Examination of the precipitation (Figs. 8-9) and streamflow (Fig. 10) records shows the clear correlation between discharge volume and average salinity. Total monthly precipitation shows a weak correlation with salinity levels and there is only slight evidence of the previously noted inverse relationship (Riley, 1959).

The periods of decreasing average salinity were coincident with the times of increasing freshwater discharge from the Connecticut River. Although final analysis of the significance of these data must wait on the completion of a detailed salt balance calculation, they suggest that the influence of the Connecticut River is not simply confined to the eastern Sound as previously proposed (Riley, 1956).

The vertical salinity gradients display marked seasonal variability. Although near bottom salinities were consistently higher than surface salinities, variations over the vertical ranged from a minimum in September and October 1972 when nearly isohaline conditions prevailed to a maximum of 2<sup>0</sup>/oo during the early summer of 1973. The observed variability in the strength of the vertical salinity gradient is primarily determined by the freshwater inflows into the study area and the degree of thermal stratification. In the absence of a thermocline wind-wave induced mixing of surface waters results in a nearly iso-

DAILY PRECIPITATION (WATER EQUIVALENT IN IN.) FOR BRIDGEPORT CONN. JULY 1972 - AUG 1973

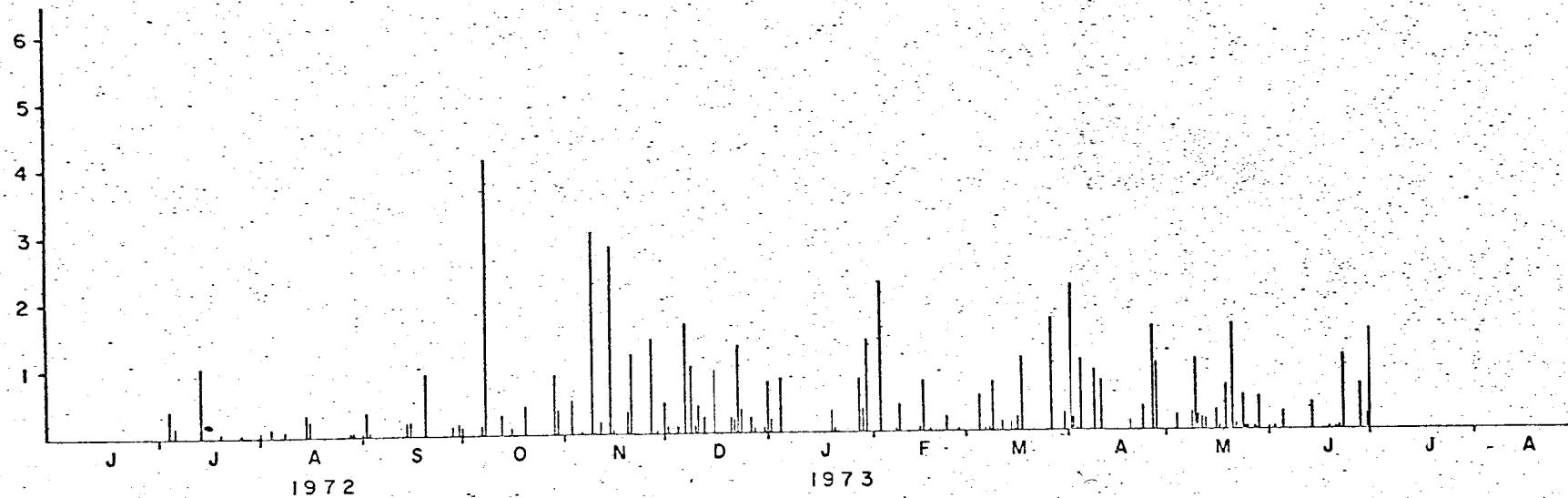


Fig. 8. Daily Precipitation Bridgeport, Connecticut

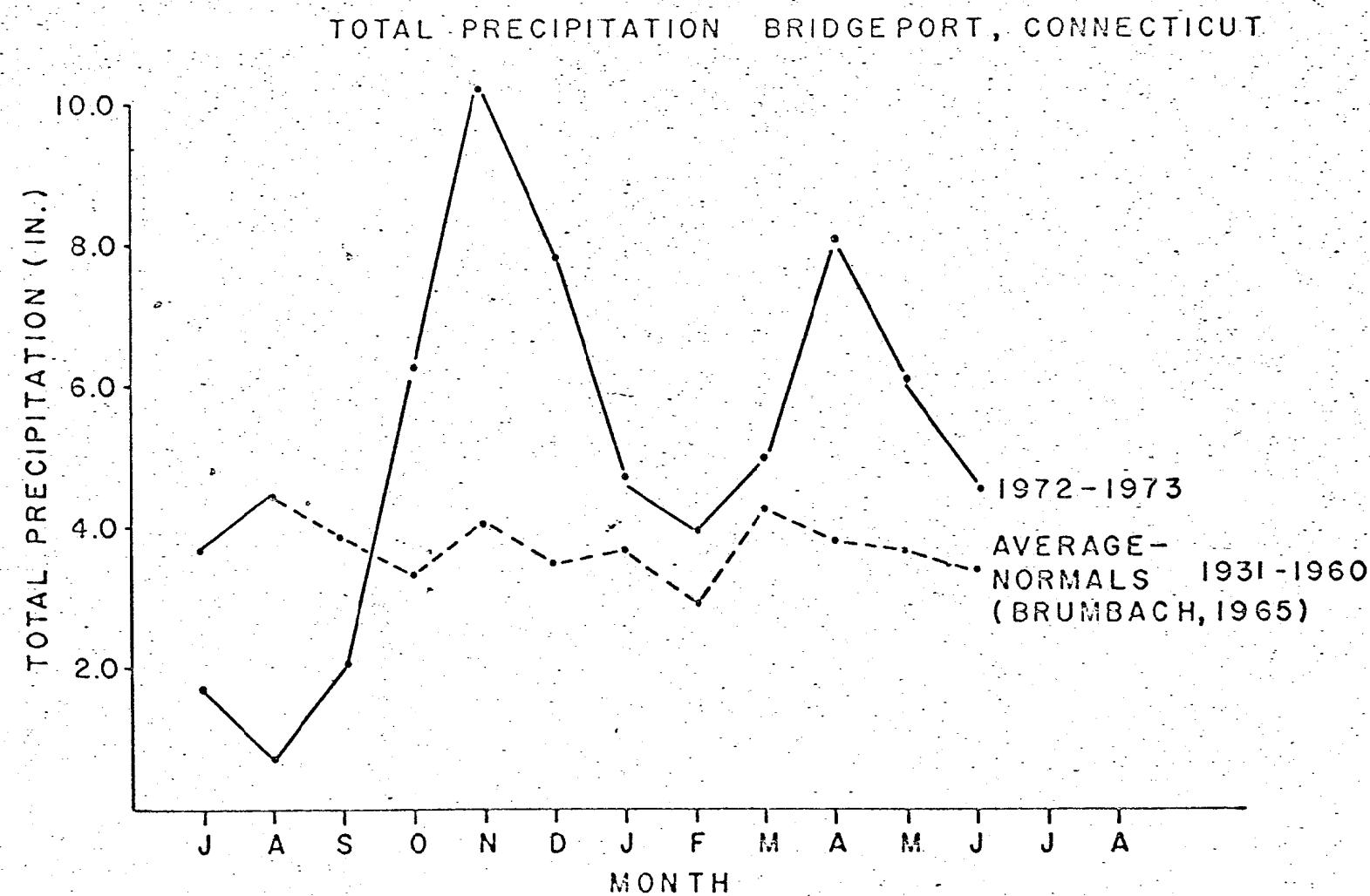


Fig. 9. Monthly Precipitation Bridgeport, Connecticut

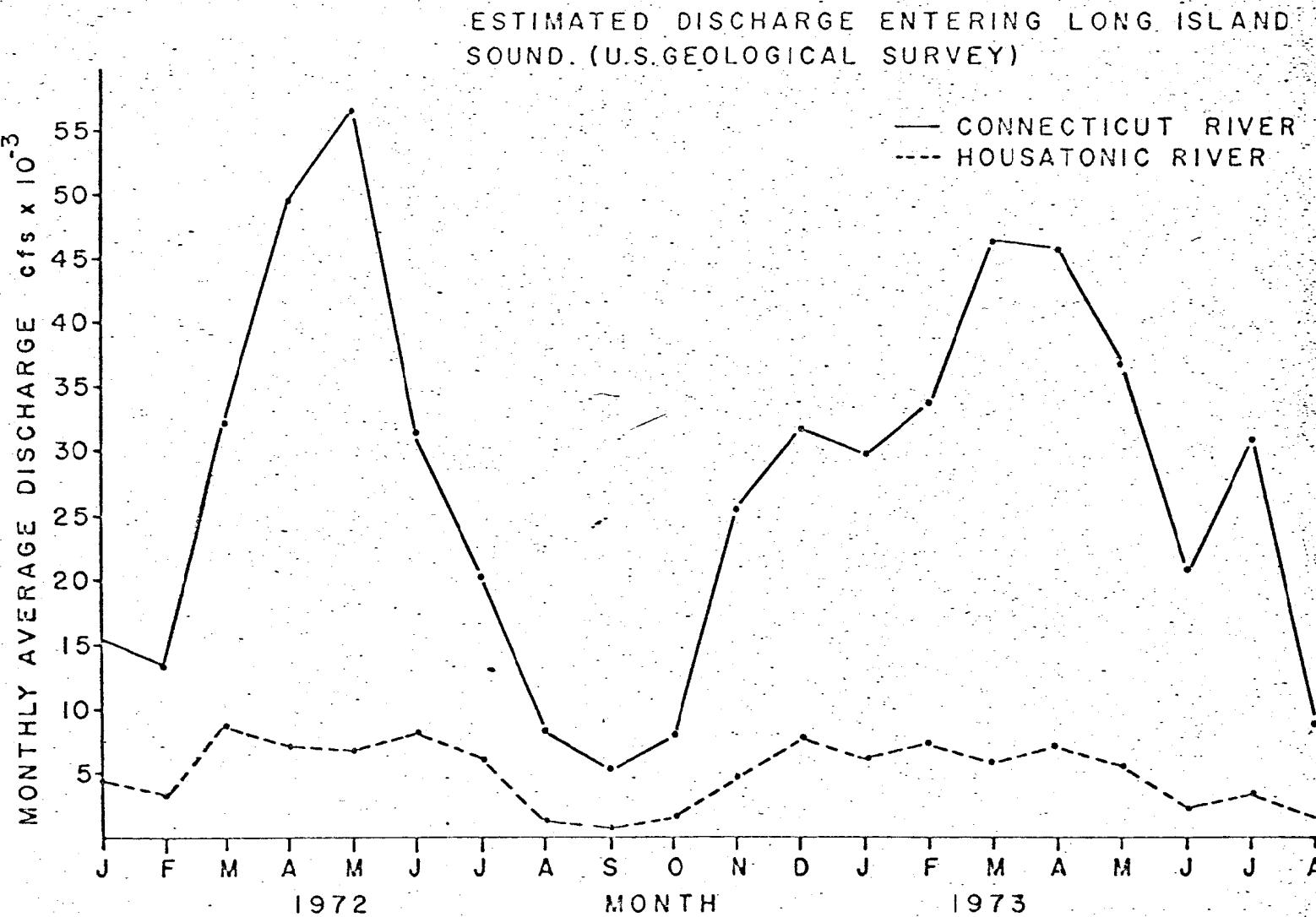


Fig. 10. Selected Streamflow into Long Island Sound

haline layer extending through mid-depth. The appearance of a thermocline during April is coincident with sharp variations in mid-depth salinities characteristic of reduced vertical mixing. The marked difference between surface and mid-depth salinities persisted throughout the summer, disappearing after the seasonal suppression of the thermocline.

There were no significant spatial variations in the salinity field within the study area. The slight decreases observed at Station 1 are the results of freshwater discharged from New Haven Harbor. The effects were transient and confined to local near surface waters resulting in only minor variations in vertically averaged salinity.

### 3. Dissolved oxygen and biochemical oxygen demand

The seasonal progression in the temperature and salinity of the waters within the study area produces concurrent variations in oxygen solubility. The resulting dissolved oxygen concentrations display a clear seasonal pattern with minimum values observed in July and August of 1972 and maxima in March 1973. The variations closely follow the observed seasonal temperature pattern with no significant variation between stations (Figs. 11, 12, 13 and 14).

Vertical distributions of dissolved oxygen are controlled primarily by the degree of density stratification. Weak vertical density gradients characteristic of the fall and winter months coincide with periods of near homogeneity in the dissolved oxygen distribution. During these months the entire water column was observed to be slightly undersaturated. Late winter phytoplankton blooms typically observed in

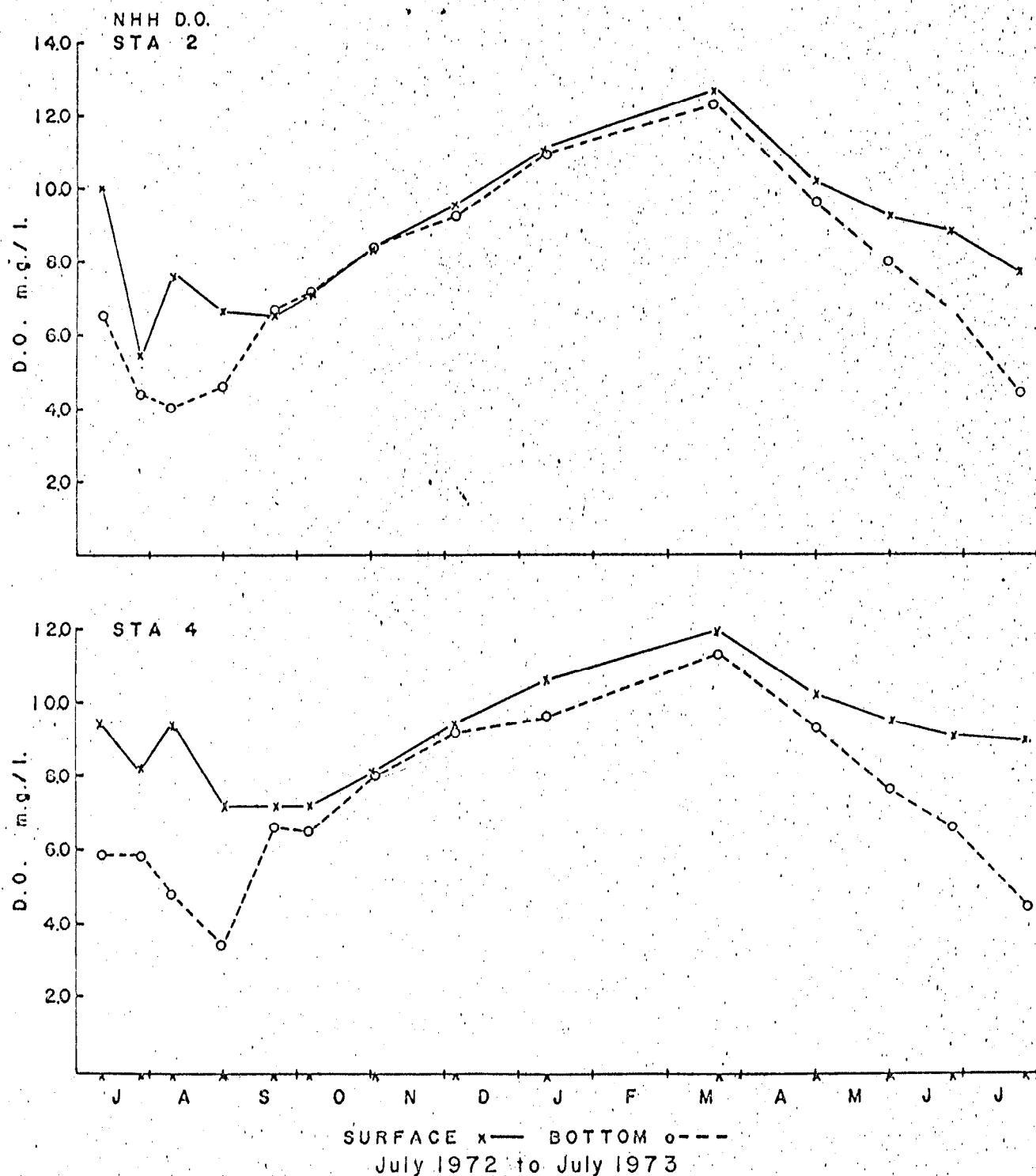


Fig. 11. Dissolved Oxygen Distribution  
North-South Transect, Central Long Island Sound

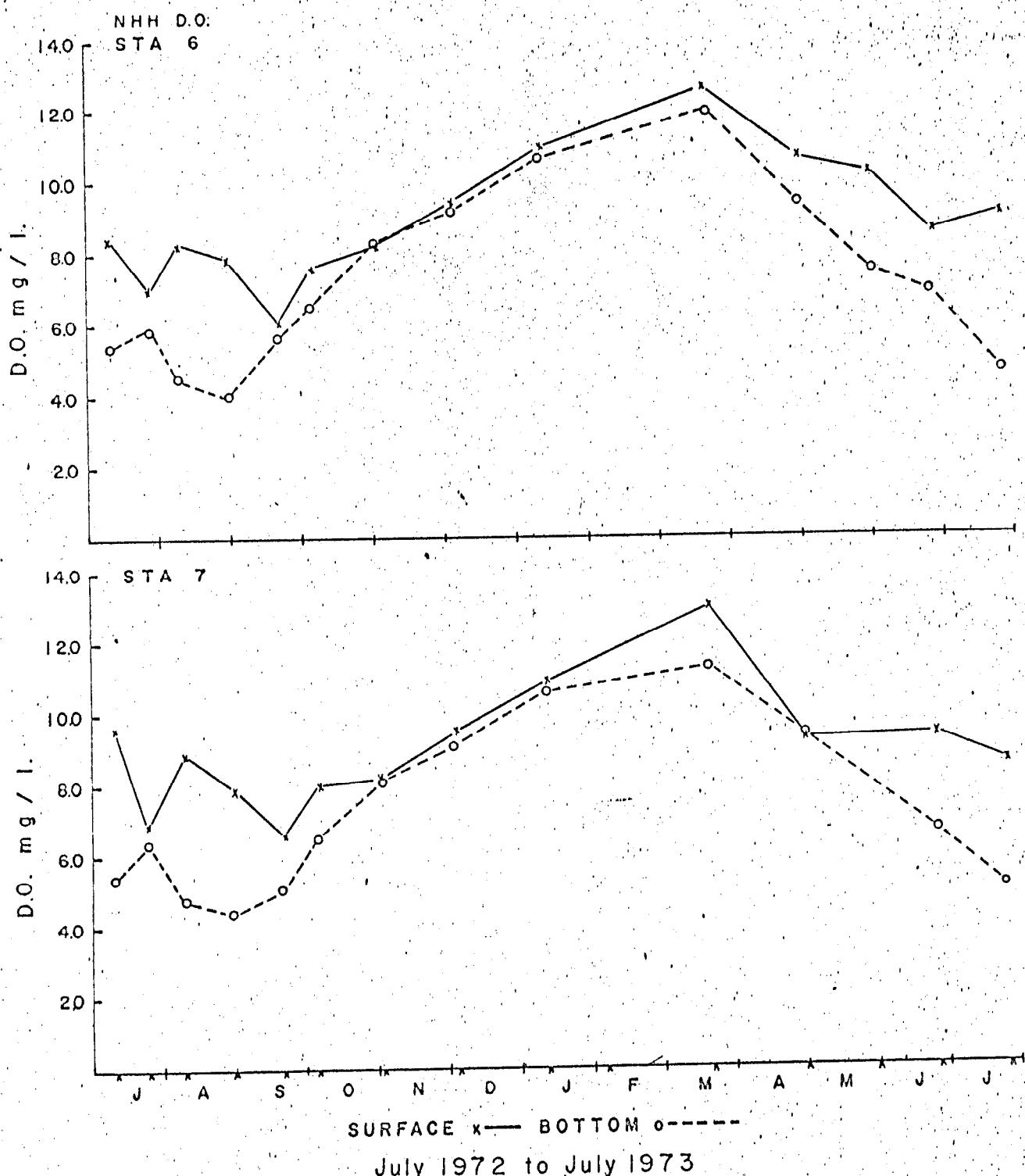


Fig. 12. Dissolved Oxygen Distribution  
North-South Transect Central Long Island Sound

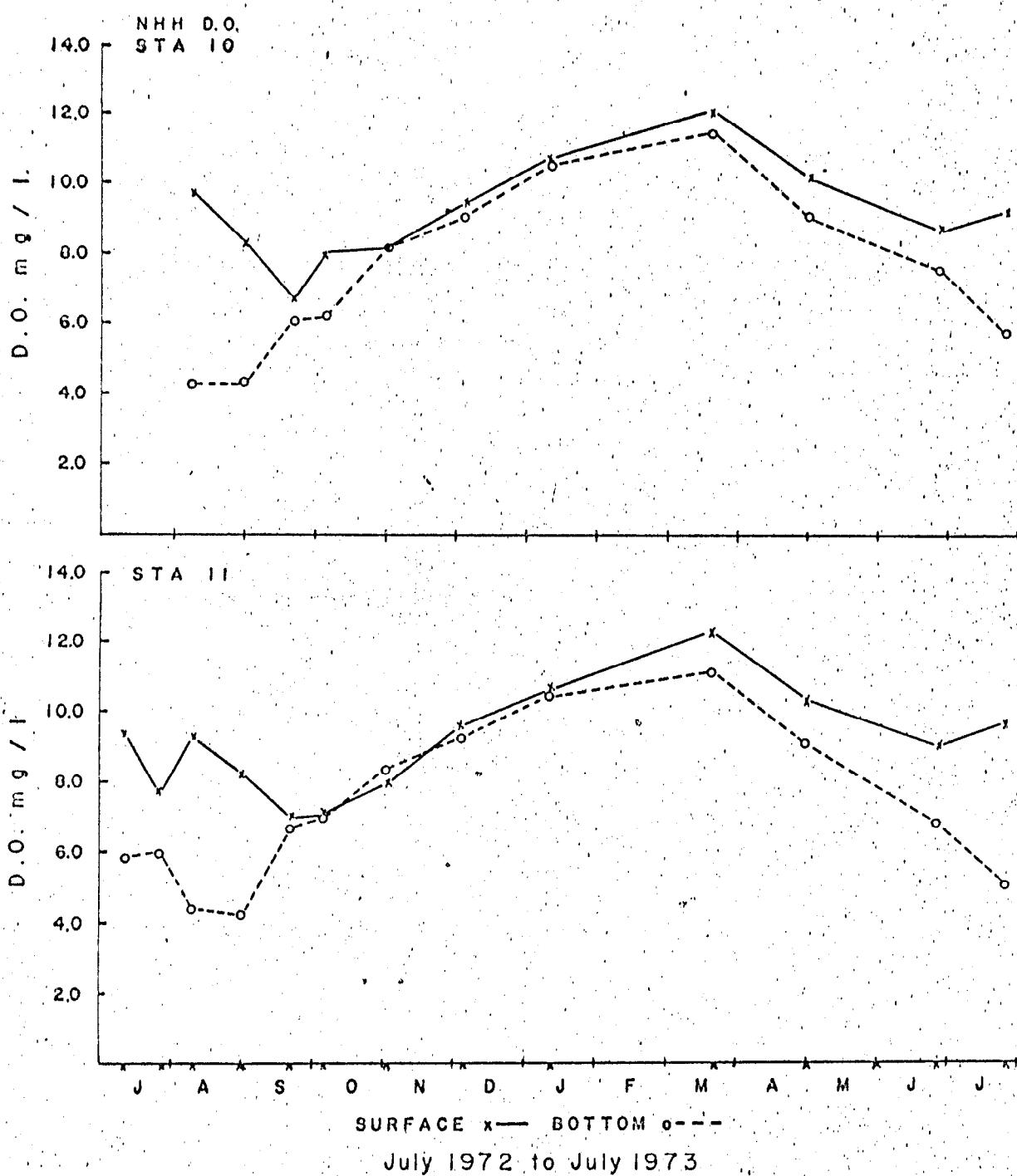


Fig. 13. Dissolved Oxygen Distribution  
East-West Transect - Central Long Island Sound

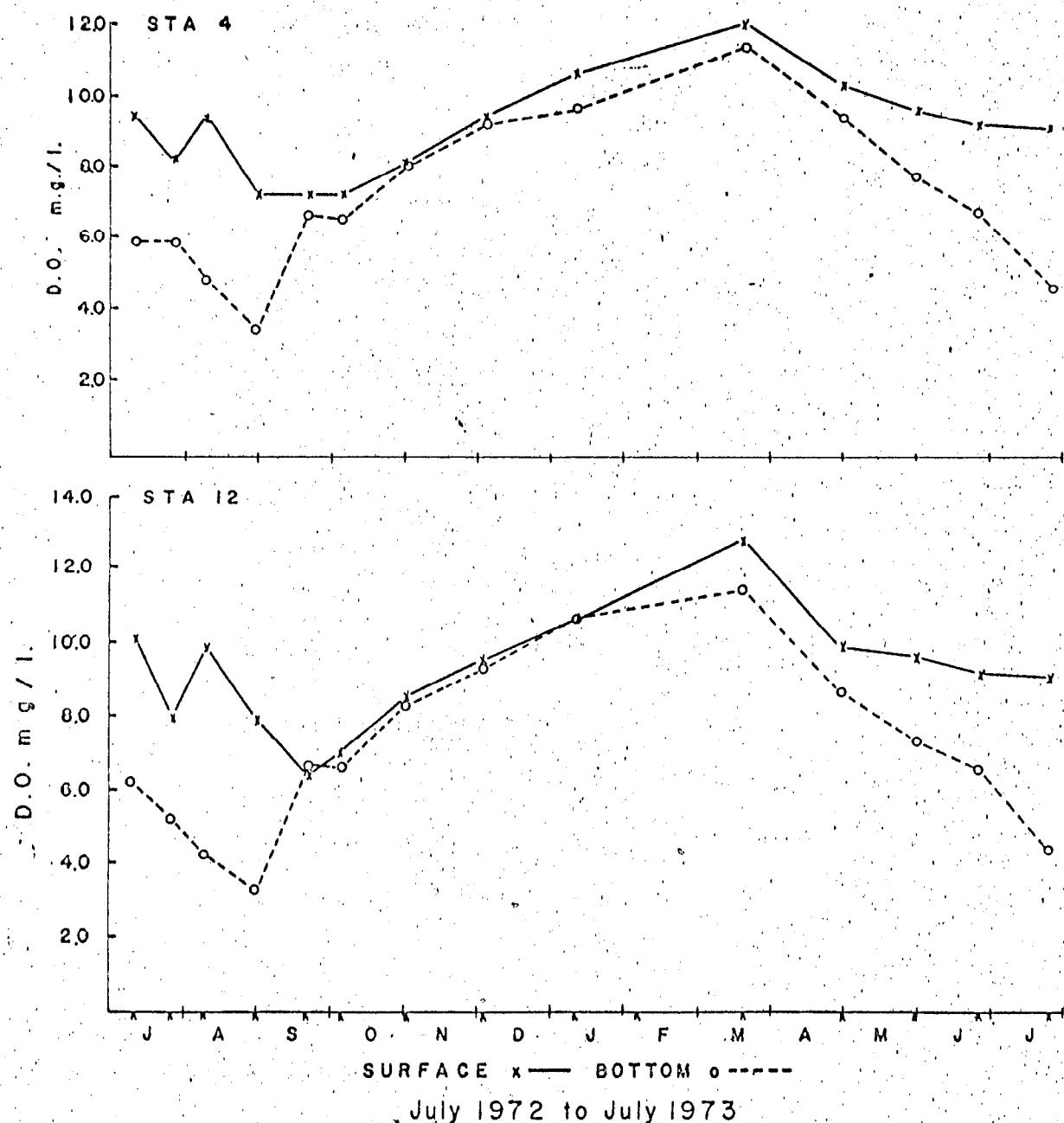


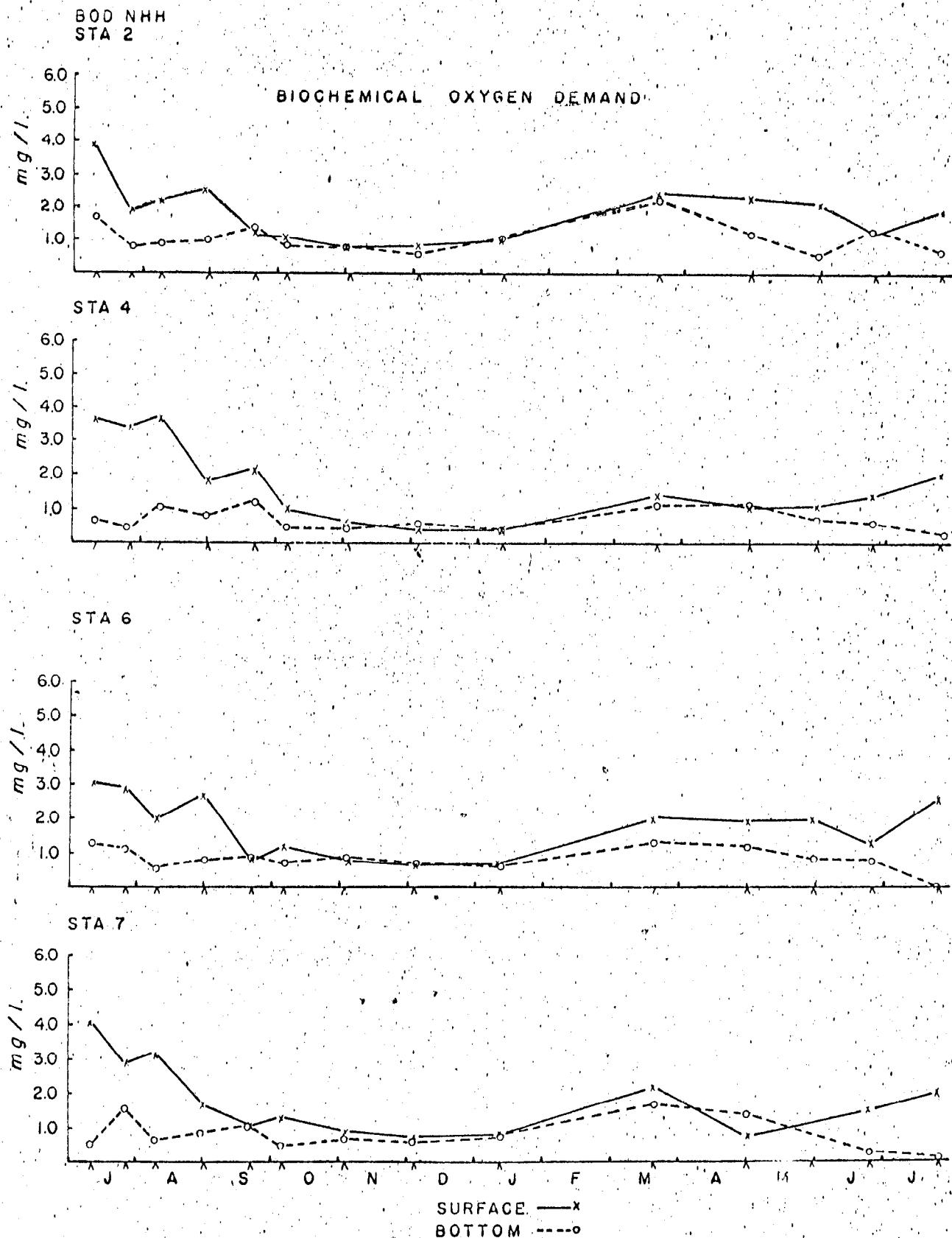
Fig. 14. Dissolved Oxygen Distribution  
East-West Transect - Central Long Island Sound

February and March (Riley and Conover, 1967) result in supersaturation of the entire water column. This condition persists in the near surface waters until July when BOD loading succeeds in reducing the surface dissolved oxygen concentrations below the saturation level. Minima were observed in late August 1972 with surface dissolved oxygen concentration reduced to 85% of saturation.

In the deep waters the developing thermocline and seasonal salinity gradient observed in March 1973 effectively reduces vertical mixing and results in a progressive depletion of dissolved oxygen. Values reached a minimum in August 1972 when concentrations over the dumpsite fell below 4.0 mg/l representing approximately 45% saturation.

Biochemical oxygen demand varies seasonally with maximum values observed in the surface waters during July 1972 (Figs. 15-16). Minima occurred during November and December 1972. While there is little evidence of an increased demand during the fall months due to an autumnal bloom (Riley and Conover, 1956), the observed increase in February and March 1973 clearly coincides with the period of winter flowering (Riley and Conover, 1967).

BOD loading is generally higher and consistently more variable in the surface waters. Seasonal range exceeds 3.0 mg/l with no evidence of significant spatial variability. Near bottom demand levels are low and display a weak seasonal cycle with a range of less than 1.5 mg/l. The vertical distributions are clearly affected by stratification and again there is evidence of isolation of bottom waters by a developing pycnocline.



July 1972 to July 1973

Fig. 15. Biochemical Oxygen Demand  
North-South Transect Central Long Island Sound

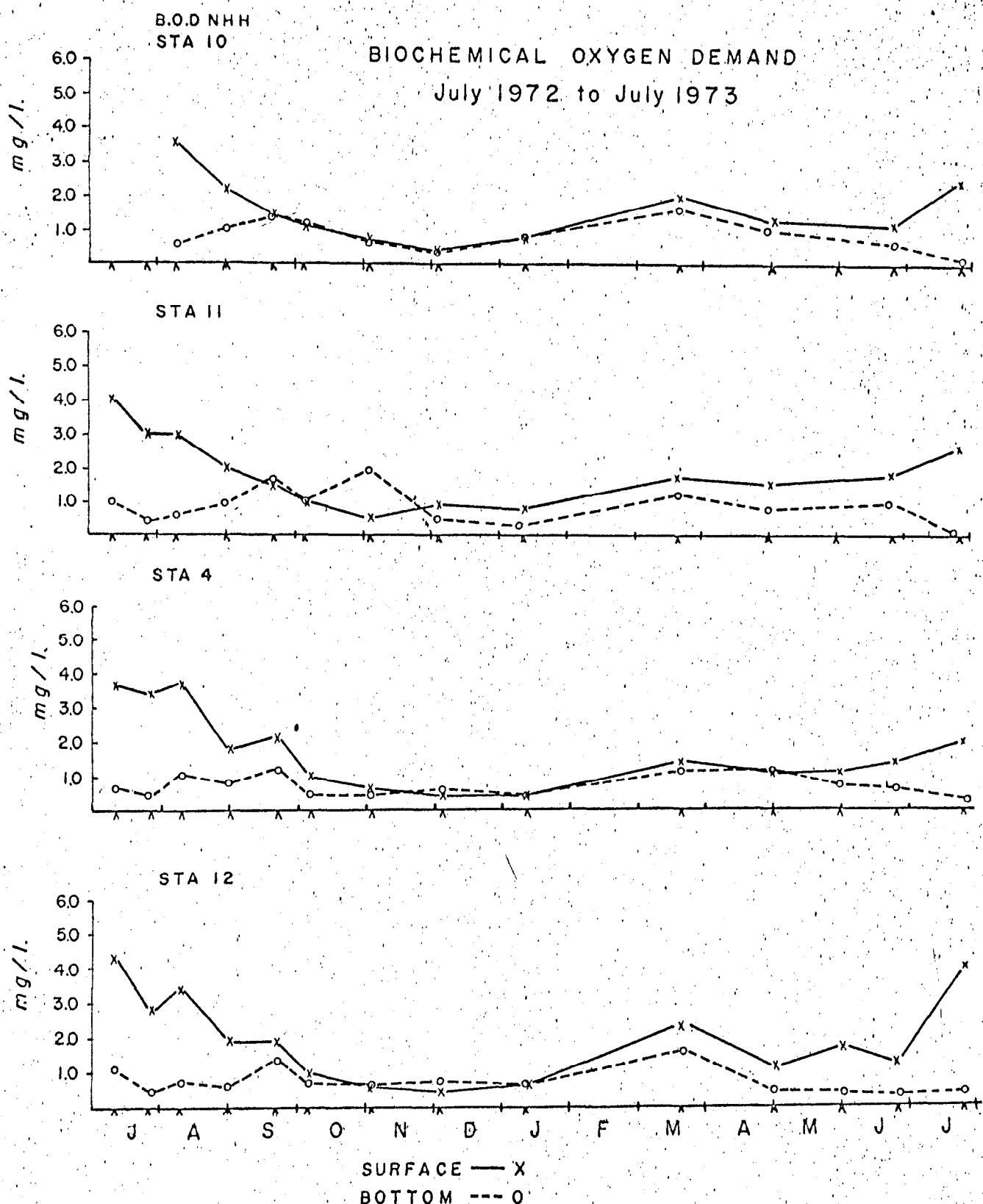


Fig. 16. Biochemical Oxygen Demand  
East-West Transect Central Long Island Sound

#### 4. Nutrient concentrations

The distribution of orthophosphate and nitrate-nitrogen throughout the study area displayed a clear seasonal variability characteristic of temperate waters (Riley and Conover, 1956). Maximum concentrations occurred in November-December 1972 with N:P ratios averaging approximately 5:1. These levels are similar to those observed during a 1970 survey of Long Island Sound (Hardy and Weyl, 1970) and somewhat lower than those measured during 1952-1954 (Riley and Conover, 1956). Variations appear to be the result of reduced nitrate and enriched phosphate concentrations.

Nitrate concentration (Figs. 17-18) decreased rapidly during March 1973, presumably in response to the usual late winter bloom of phytoplankton (Riley and Conover, 1967). Minima occurred in June 1973 with nitrate levels in the near surface waters approaching zero concentration. This condition persisted until replenishment began in July and August 1973. The fall increase observed in 1972 progressed uniformly to a maximum in December. As in the case of the dissolved oxygen concentrations there was no evidence of a significant autumnal bloom.

Phosphate concentrations (Figs. 19, 20, 21, and 22) display a consistent decrease following the maximum in December 1972. Minima occurred in May 1973 with concentrations approaching  $0.2 \mu\text{g-At PO}_4/1$ . A slight increase occurs in June and July with significant replenishment beginning in August. Again the fall 1972 increase progressed uniformly to the December maximum.

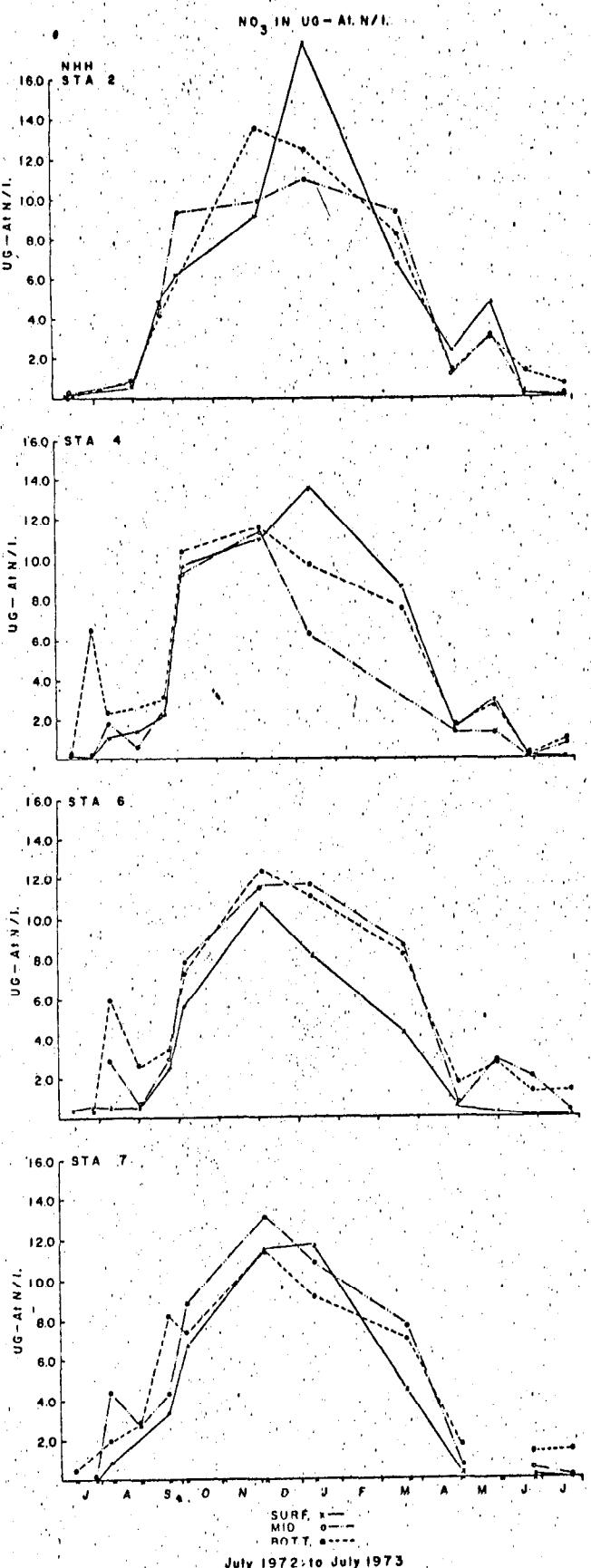


Fig. 17. Nitrate Concentrations North-South Transect  
Central Long Island Sound

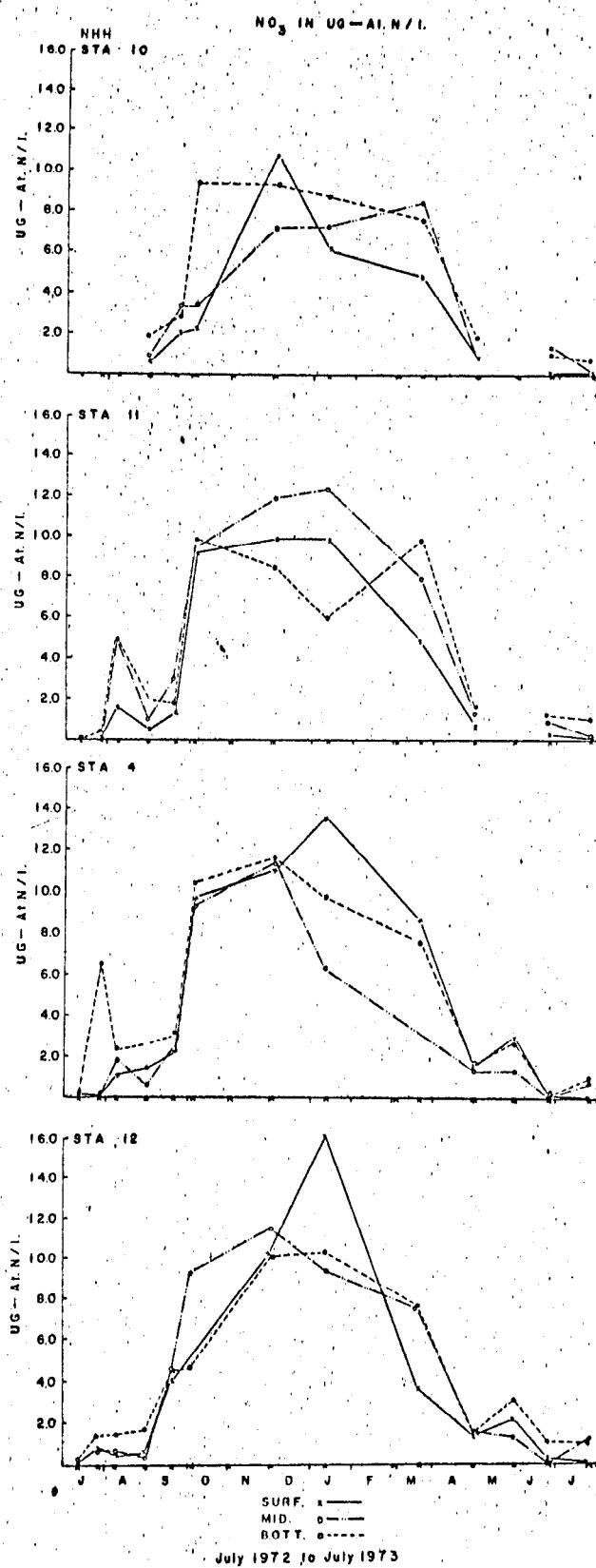


Fig. 18. Nitrate Concentrations East-West Transect  
Central Long Island Sound

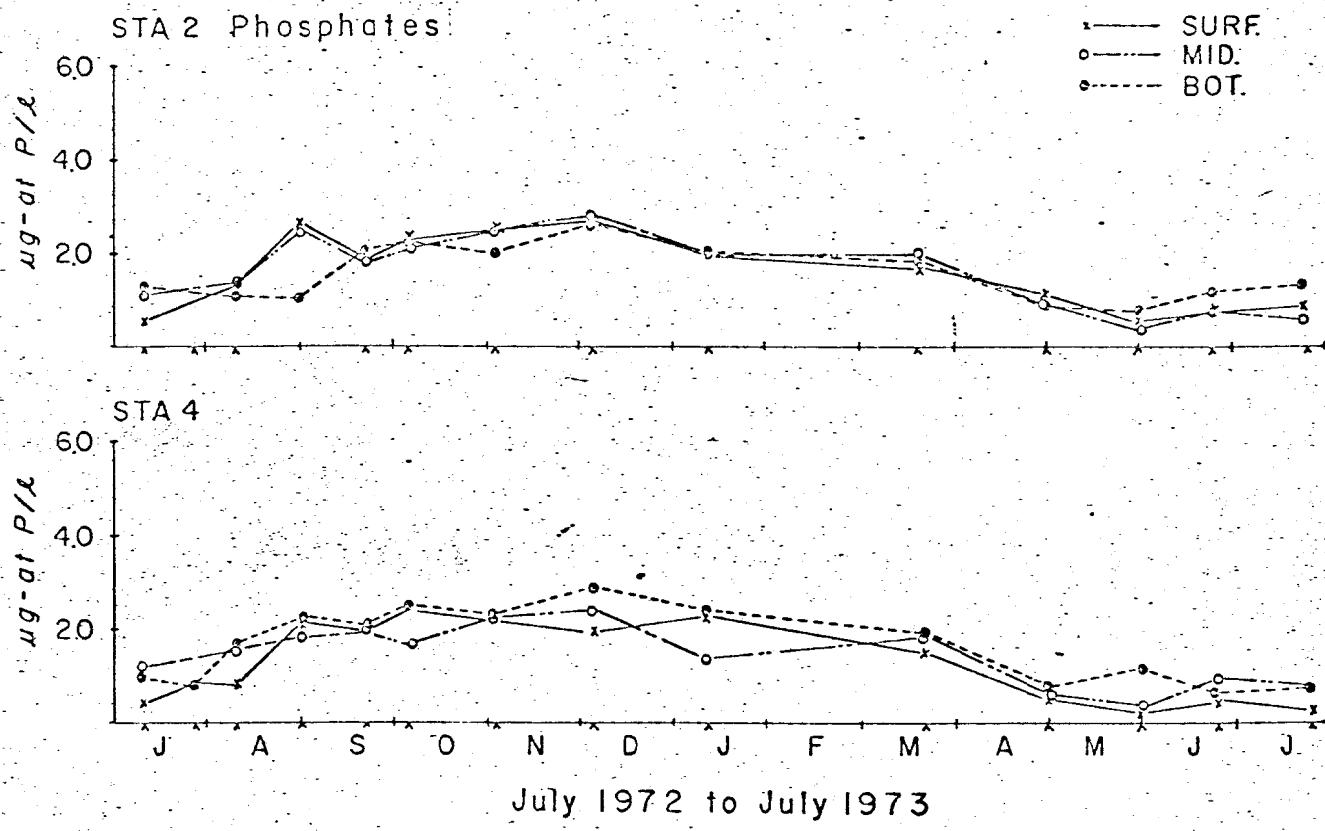


Fig. 19. Ortho-Phosphate Concentrations North-South Transect

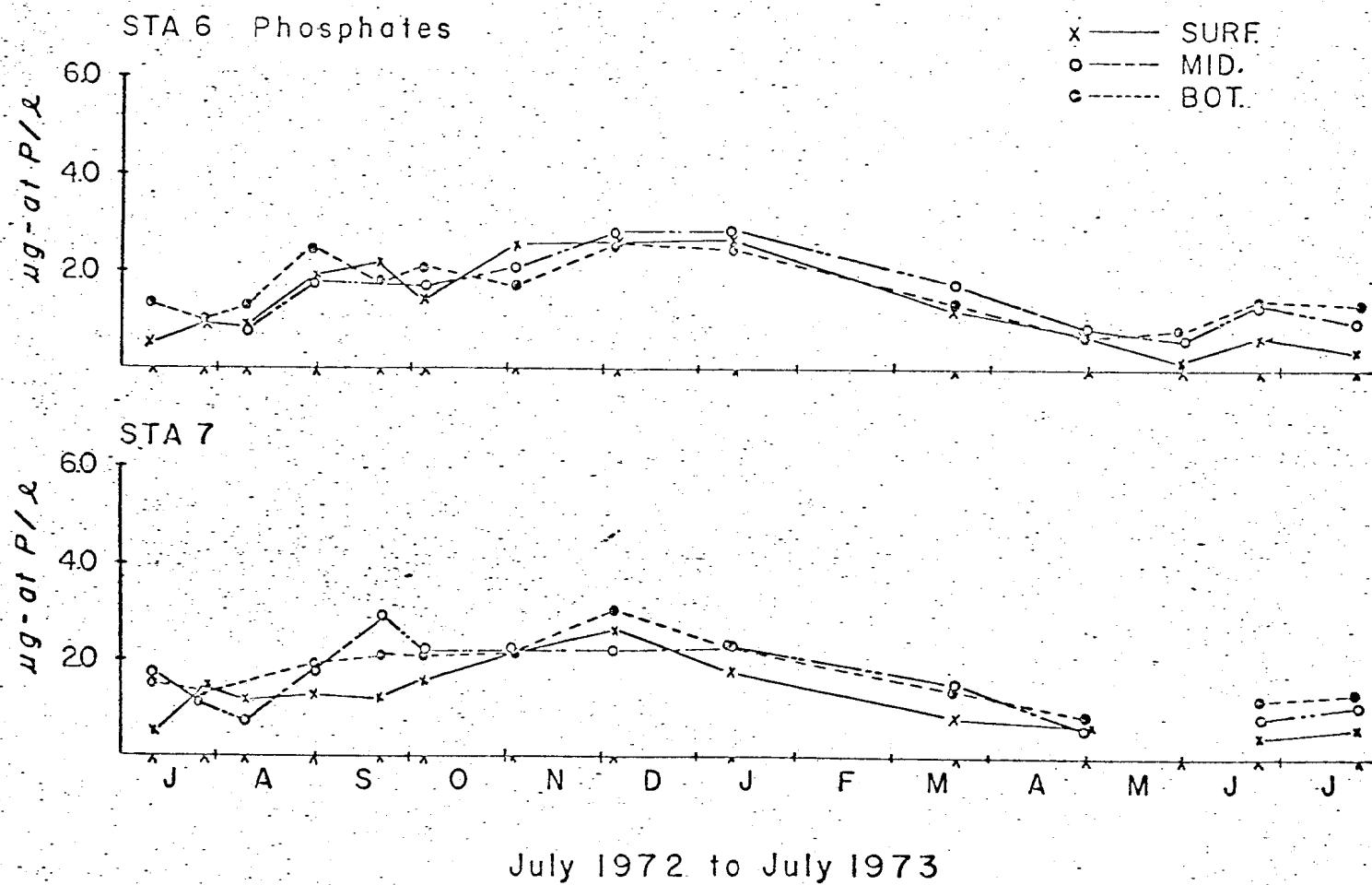


Fig. 20. Ortho-Phosphate Concentrations North-South Transect

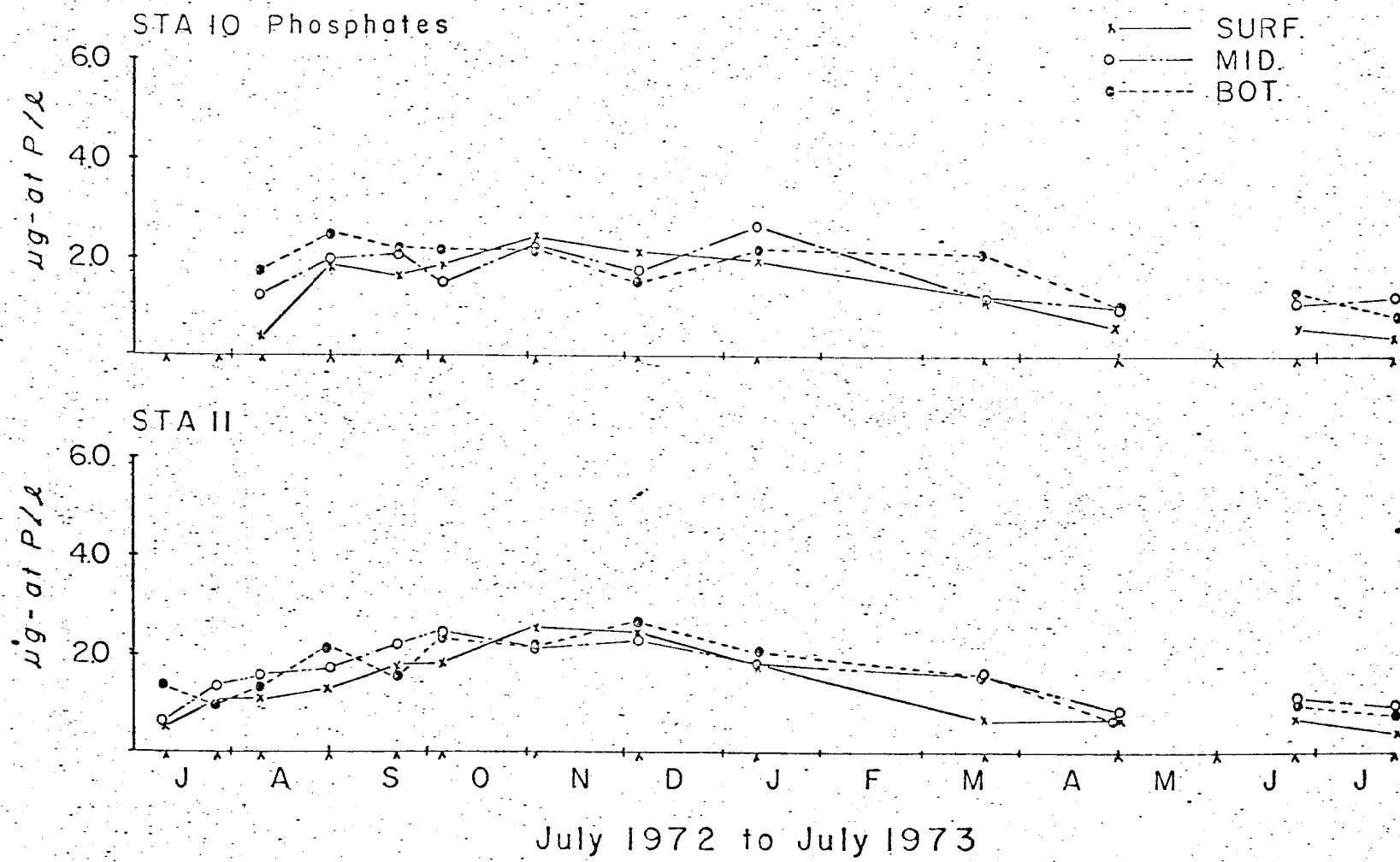


Fig. 21. Ortho-Phosphate Concentrations East-West Transect

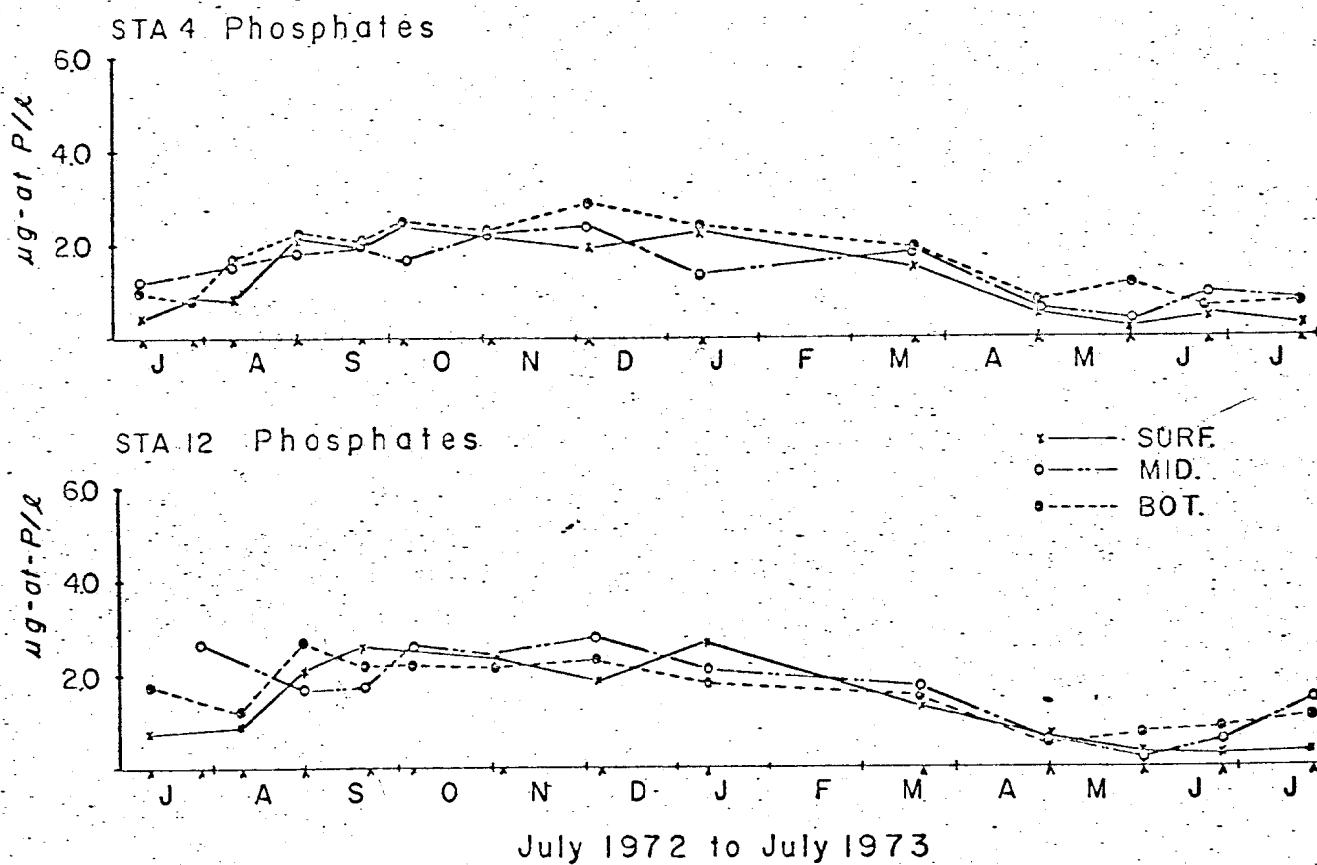


Fig. 22. Ortho-Phosphate Concentrations East-West Transect

The seasonal depletion of nitrate and the concurrent finite phosphate concentrations are consistent with previous data showing nitrate concentration to be the principal determinant of the extent of phytoplankton blooms in central Long Island Sound (Riley and Conover, 1956; Hardy, 1972).

There is slight evidence of a regular spatial variability in nitrate and phosphate concentrations. Surface values within the northern end of the study area tend to equal or exceed near bottom concentrations for most of the year. This trend persists over the dumpsite. In the deeper waters of the southern stations the gradients reverse with bottom concentrations tending to exceed near surface values.

The indicated enrichment of surface waters at the northern stations appears to be the result of outflows of nutrient-rich waters most probably from New Haven Harbor (Bohlen, in preparation). In addition, recent data concerning the mass transport field within the study area (Gordon, in preparation) imply that surface supplies may be supplemented by coastal upwellings of nutrient-rich bottom waters. In contrast to the near shore stations, surface nutrient levels at the deeper southern stations appear to be maintained by vertical mixing with the higher concentration bottom waters. Although these processes are expected to dominate the distribution of nutrients, the marked behavioral differences in the observed concentrations indicate that their relative importance is extremely variant in space and time.

##### 5. Suspended Material Concentrations

The distribution of total suspended solids at all stations was dominated by a regular seasonal variability. Surface and mid-depth concentrations varied uniformly from a low in August-September 1972 to a high during March 1973 and again to a low in June 1973 (Figs. 23-24). These trends appear strongly correlated with the annual freshwater discharge cycle (Fig. 10). Near bottom concentrations displayed a similar seasonal pattern perturbed aperiodically by large amplitude anomalies. The concentration field is far less dynamic than that observed in eastern Long Island Sound (Bohlen, 1973) and is clearly representative of a lower energy environment.

Although quantitative estimates of the relative amounts of suspended material introduced into central Long Island Sound by the Housatonic and Connecticut Rivers cannot yet be accurately developed, the strong correlation between seasonal concentration patterns and the discharge cycle of the Connecticut River suggests that this river exerts a significant influence on material concentrations in the central Sound. The persistent increase in concentration observed from September 1972 until March 1973 coincides with the period of increasing streamflow in the Connecticut River. Housatonic River discharge during this period was observed to steadily increase from September 1972 until December 1972, thereafter remaining essentially constant until April 1973. The uniform discharge from December through April would seemingly favor development of near constant average concentrations levels in marked contrast to the observed persistent increase in

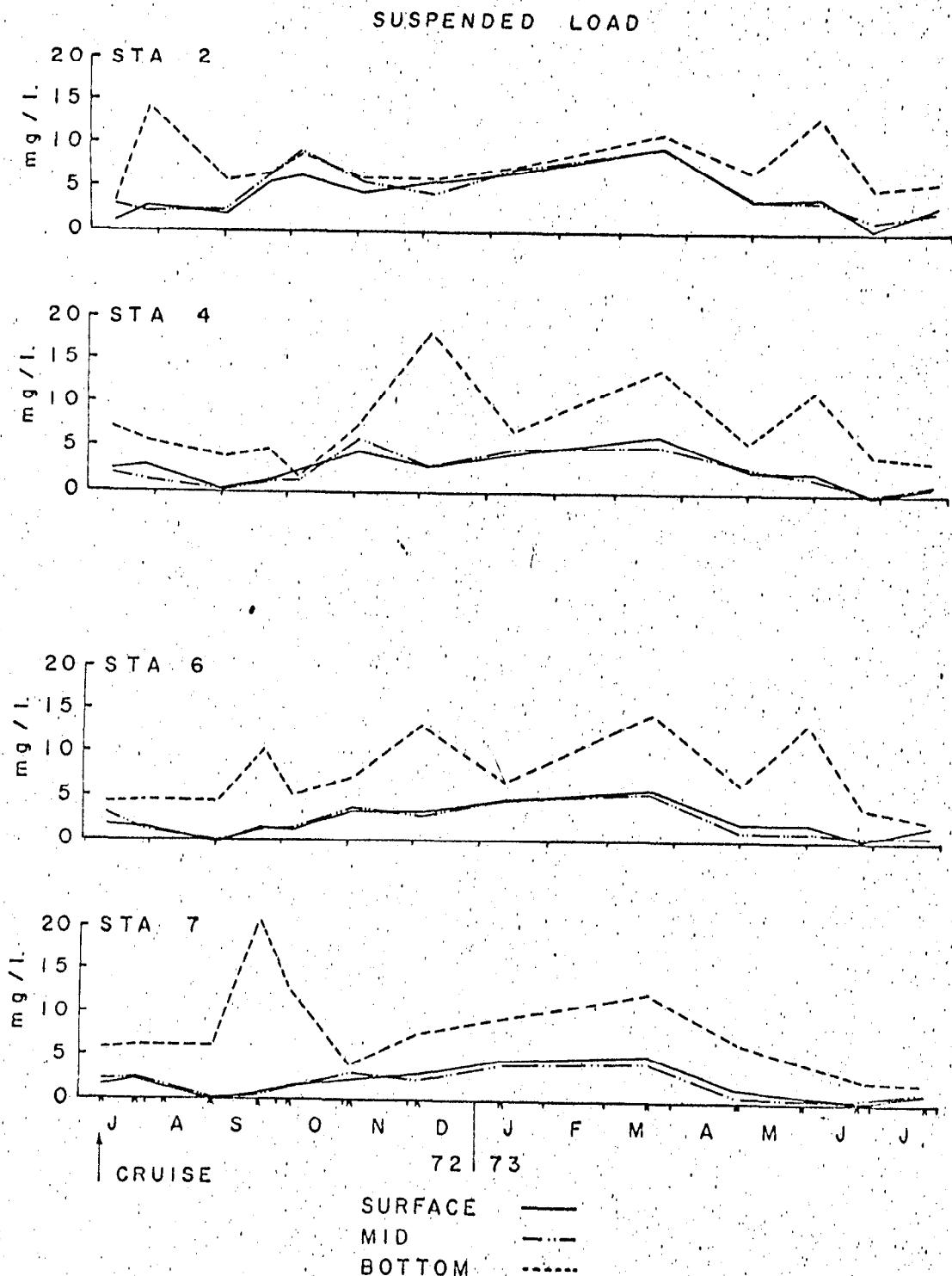


Fig. 23. Total Suspended Material Concentrations  
North-South Transect

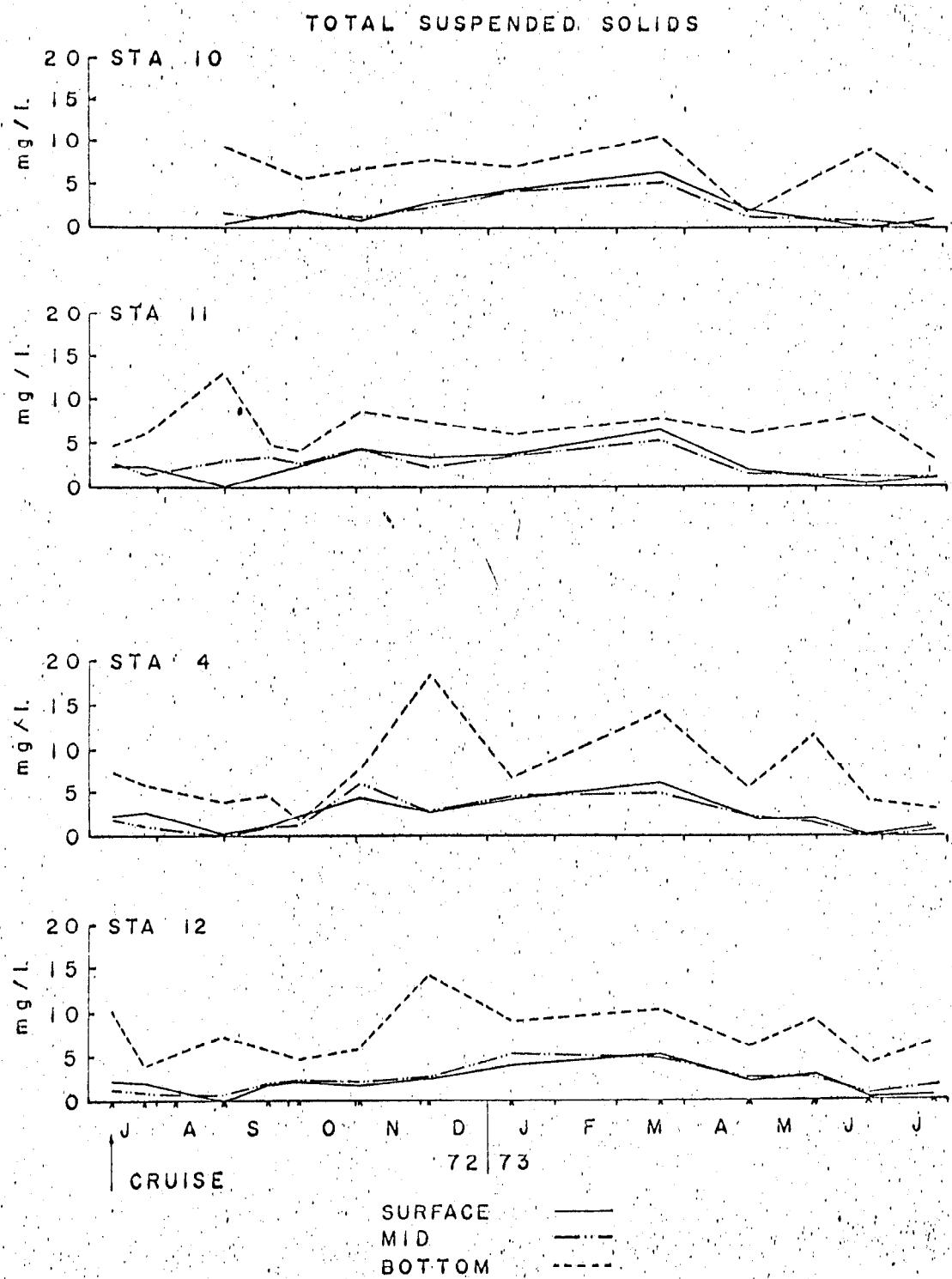


Fig. 24. Total Suspended Material Concentrations  
East-West Transect

material concentrations.

Phytoplankton blooms are expected to exert negligible influence on the observed seasonal trends in suspended material concentrations. Previous studies in central Long Island Sound (Riley, 1959) have shown that while phytoplankton concentration increases significantly during periods of bloom, the total organic fraction of the suspended load varies annually within relatively narrow limits. In addition, variations in percent organics are weakly correlated with observed perturbations in total particulate concentrations.

Suspended material distribution is characterized by a persistent vertical gradient throughout the study area. Near bottom concentrations are consistently higher than mid-water and surface values. A large percentage of this increase is expected to be the result of the intense bioturbation characteristic of the central Sound (Gordon et al., 1972). A minor fraction is contributed by inflows of bottom water from the eastern Sound. The observed aperiodic anomalies tend to be confined to periods characterized by above average wind velocity. The data suggest that anomalous concentrations are the result of variations in bed shear stress induced by the surface wind wave field. The process is expected to be responsive to both wind direction and speed and should be especially effective in the near shore shallow waters. The irregular behavior in near bottom concentrations indicates, however, that the observed anomalies are not simply the result of wind stress variations. While several events are evident in shallow water and proceed to decay or disappear at the offshore stations,

others are evident only in the deeper waters. It is apparent that the anomalous material concentrations are the result of a combination of processes including wind stress variations, storm induced fluctuations in river discharge, variability in bioturbation and sampling bias. The latter includes errors due to bottom disturbance induced by the sample bottle and weight and bias introduced by non-synoptic sampling over a tidal cycle. The complex interaction between these processes produces the observed spatial and temporal variations in concentration anomalies. Any one of the processes may dominate a particular event and precise determination of the primary cause is difficult.

Vertical concentration gradients in surface to mid-depth waters are weak with observed differences seldom exceeding 1.0 mg/l. Surface concentrations exceed mid-depth values aperiodically with dominant surface concentrations being most pronounced and persistent at the offshore stations. There is no evidence of a regular seasonal pattern in the observed inverse gradients. The condition appears to be the result of the redistribution by wind wave and tidal mixing of particulate material contributed by seasonal phytoplankton blooms, freshwater inflows and the atmosphere. The resultant patterns should be expected to display significant spatial and temporal variability.

The transparency of the surface waters within the study area displays an evident seasonal variability. Secchi disk measurements averaged between 1.3 and 4.2 m. The range is closely similar to that reported in previous investigations (Riley and Schurr, 1959).

Calculation of the extinction coefficients using  $K = 1.7/D$ , where D equals the Secchi disk depth in meters (Poole and Atkins, 1929) shows maximum extinction occurring during March, April and May 1973 with minima observed in August 1972 (Fig. 25). The coincidence between maxima and periods of increased phytoplankton activity is consistent with previous data showing phytoplankton to be responsible for as much as one third of the observed light extinction (Riley, 1956). Although the annual extinction cycle is qualitatively similar at all stations, values are higher while the seasonal range is reduced at the near shore stations. The variability displays an evident dependence on local mixing characteristics and material supplies.

Examination of the relationship between extinction coefficients and total suspended material concentrations indicates clearly that particulate material is only in part responsible for the observed attenuation of light. Coefficients measured over the dumpsite are weakly correlated with material concentrations (Fig. 26). At a given concentration level extinction coefficient may vary by nearly a factor of two. Similarly a single extinction value was associated with four concentration levels ranging from a low of 0.1 mg/l to a high of 2.5 mg/l. These wide variations indicate that dissolved compounds exert significant influence on total light extinction in coastal waters. The degree of influence is expected to vary in space and time, thus complicating determination of compensation depth using suspended load data or, conversely, estimates of material concentrations

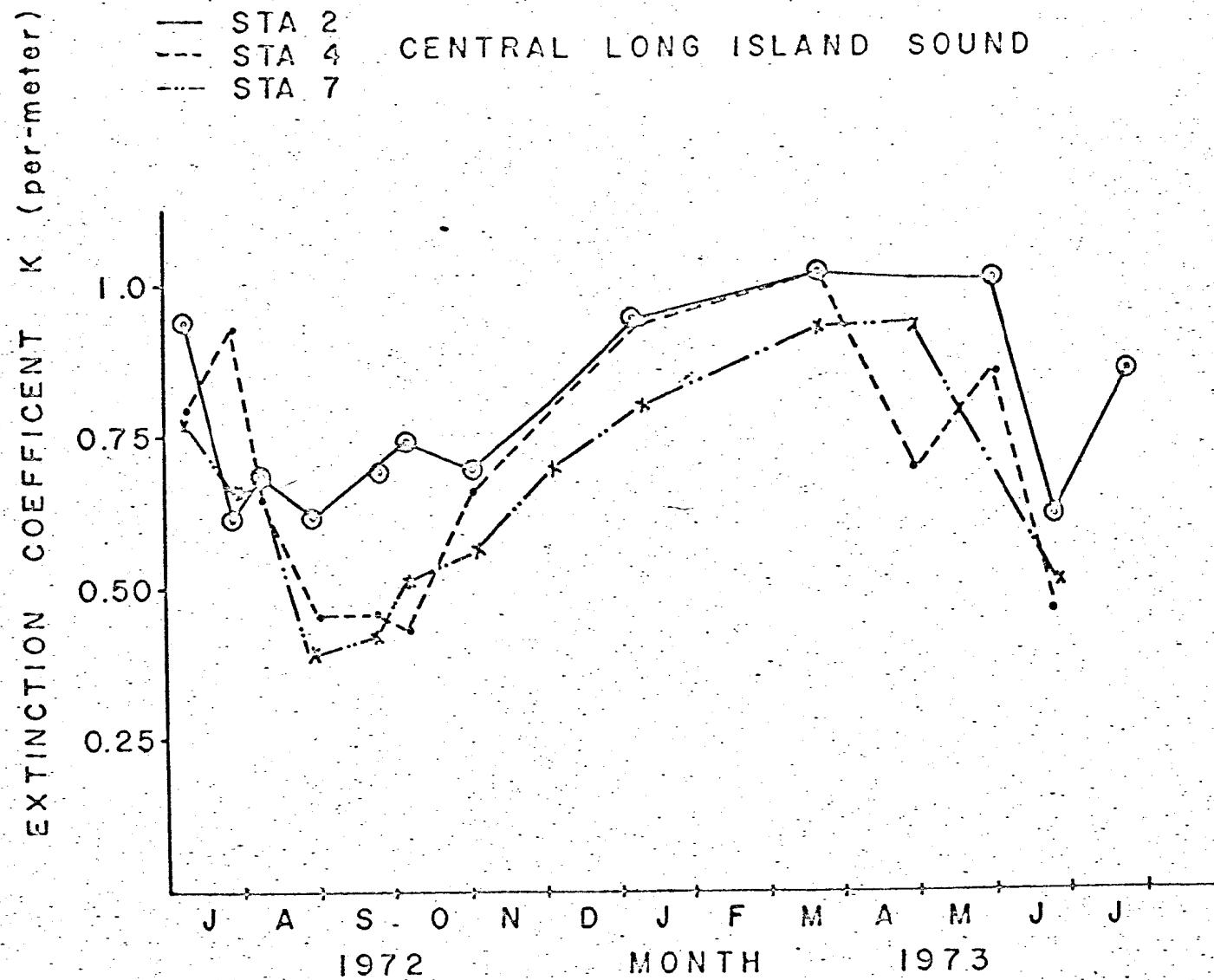


Fig. 25. Seasonal Variations in Light Extinction in Near Surface Waters

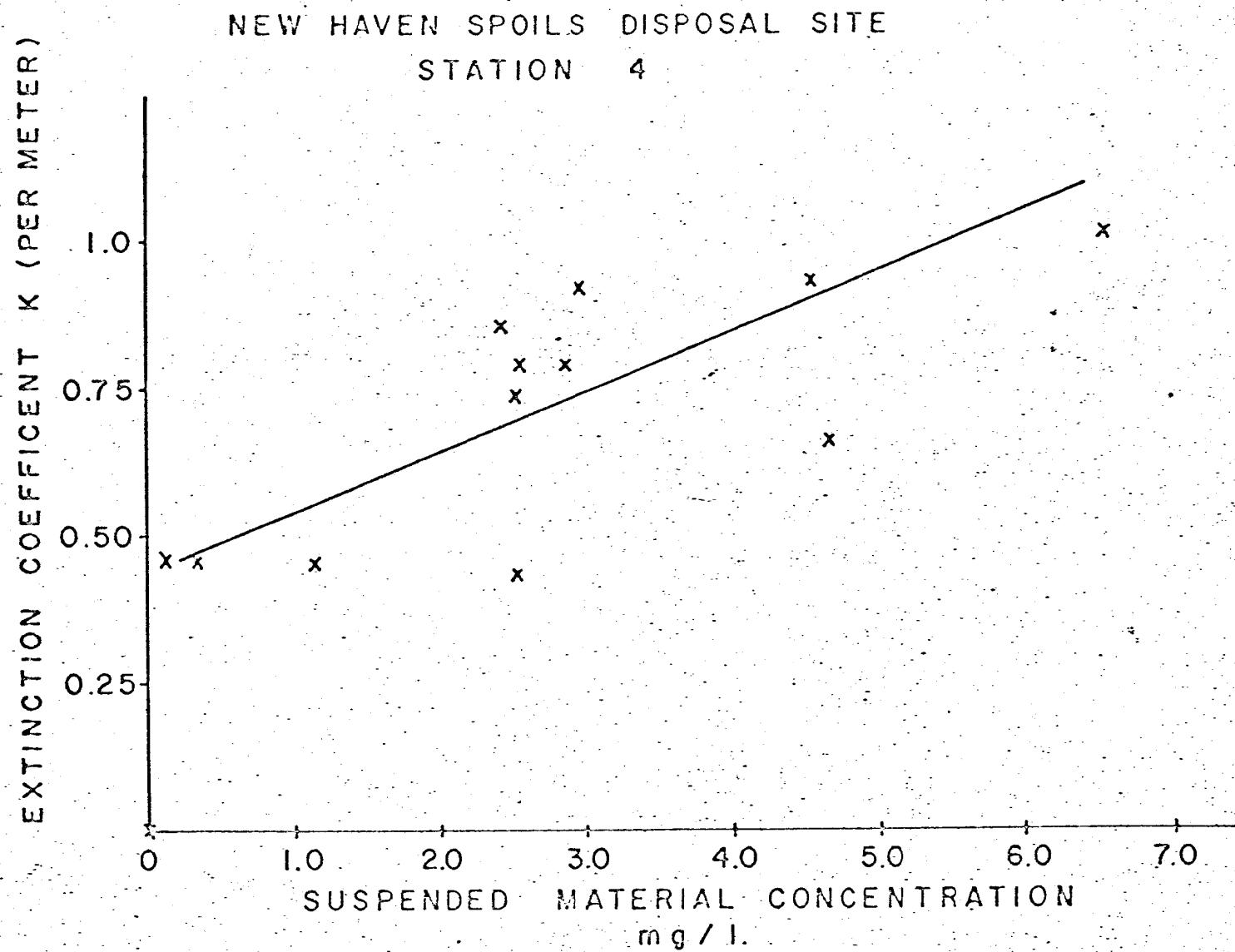


Fig. 26. The Relationship Between Extinction Coefficient and Suspended Material Concentration

based on simple light attenuation observations. If these parameters are of interest within a study, direct measurements of each are recommended.

#### 6. Coliform Bacteria Distributions

Microbiological characteristics of the sediments and waters adjoining the New Haven Disposal Site will be the subject of a separate report. (Bireley, in preparation.)

#### E. Discussion

The physical and chemical characteristics of central Long Island Sound detailed in this investigation uniformly display a clear seasonal variability. Range and timing of maxima and minima are determined largely by meteorological factors including air temperature, rainfall-runoff and wind stress. As a result significant year-to-year variability is to be expected. The extent of these variations can in part be predicted using observed meteorological parameters. Final quantitative determinations, however, are precluded by the paucity of accurate mass transport estimates for this area. Of particular concern is the degree of influence exerted by the Connecticut River to the east and by low salinity inflows via Throgs Neck to the west. Preliminary review of the data presented in this report suggests that these inputs significantly affect the central Sound and that therefore property distribution in this area will be the result of both local and regional influences. Evaluation of the impact of dredge spoils disposal in central Long Island Sound will proceed from this hypothesis.

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**APPENDIX A**  
**DATA SHEETS**

Cruise 11 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1930; Air Temp 22.7°C; Sky clear; Sea 1-2'; Wind WSW 6 kts													
1S 0	20.0	24.720	7.40	2.60				1.47				7.11	5.5'
1M 19	19.9	24.925	7.25	2.75				1.73				7.74	
1B 38	19.9	24.955	7.25	2.65	0.16	0.01		1.88				7.72	
<u>Time:</u> 1900; Air Temp 23.1°C; Sky clear, light haze; Sea 1-2'; Wind SSW 7.5 kts													
2S 0	19.9	24.716	9.95	3.85	0.16	0.00	0.52					1.23	6'
2M 21	18.9	25.203	7.05	2.45	0.17	0.00	1.17					3.11	
2B 42	17.0	25.555	6.60	1.70	0.10	0.00	1.22					3.51	
<u>Time:</u> 1727; Air Temp 24.9°C; Sky clear, light haze; Sea 0-1'; Wind SW 6 kts													
3S 0	20.4	24.115	10.15	3.85	0.38	0.00	0.40					3.51	6.5'
3M 26	17.2	24.323	7.40	2.50	0.18	0.00	1.25					5.83	
3B 52	16.2	25.801	5.70	1.20	0.21	0.00						8.75	
<u>Time:</u> 1800; Air Temp 23.0°C; Sky clear, light haze; Sea 0-1'; Wind SSW 7 kts													
4S 0	20.3	24.275	9.40	3.65	0.18	0.00	0.44					2.55	7'
4M 31	15.9	25.405	6.10	1.45				1.19				2.08	
4B 62	15.9	25.820	5.90	0.65	0.04	0.00	0.96					7.48	

Remarks: NHH Tides: High - 1118; Low - 0500

Cruise 11 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1327; Air Temp 25.5°C; Sky clear, light haze; Sea 0-1'; Wind SW 5 kts													
5S	0	20.2	24.386	8.80	2.70	0.06	0.00	0.81				2.61	10.5'
5M	37	16.2	25.909	5.80	0.90			1.59				3.26	
5B	74	16.2	25.943	5.85	1.05	0.10	0.00	0.83				10.74	
<u>Time:</u> 1410; Air Temp 25.5°C; Sky clear, light haze; Sea 0-1'; Wind SW 5-6 kts													
6S	0	19.9	24.280	8.45	3.05	0.38	0.01	0.51				1.92	9.5'
6M	43	15.0	25.964	5.40	1.30		0.02					3.27	
6B	86	14.9	25.961	5.40	1.30		0.02	1.33				4.54	
<u>Time:</u> 1550; Air Temp 26.0°C; Sky 50% cldy; Sea 0-1'; Wind SW 5 kts													
7S	0	19.4	24.325	9.60	4.10			0.51				1.76	7.75'
7M	46	15.4	25.911	5.40	0.85			1.77				2.29	
7B	92	15.1	25.947	5.40	0.55	0.46	0.04	1.53				5.89	

Time:

Remarks:

Cruise 11 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Water Coliform	Fecal Coliform Sed	Suspended Load mg/l	Secchi Disk
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Time: 1445; Air Temp 24.5°C; Sky clear, light haze, Sea 0-1'; Wind SW 6 kts

9S 0	20.6	24.184	8.70	3.40				0.78					1.01	10.5'
9M 47	17.2	25.830	6.35	1.55	0.20	0.00		1.51					2.21	
9B 94	16.9	25.952	6.15	2.25	0.08	0.00		1.30					7.18	

Time:

Time: 1823; Air Temp 24.5°C; Sky clear, light haze; Sea 1-2'; Wind SW 7.5 kts

11S 0	20.3	24.186	9.40	4.05				0.55					2.45	8'
11M 30	16.2	24.344	7.65	2.00				0.66					2.72	
11B 60	16.1	25.854	5.85	0.95	0.06	0.00		1.37					4.91	

Time: 1655; Air Temp 23.6°C; Sky clear, light haze; Sea 1-2'; Wind SW 11 kts

12S 0	20.8	23.948	10.10	4.40	0.06	0.00		0.77					2.50	7'
12M 30	16.4	25.514	5.80	0.85									1.55	
12B 60	16.3	25.854	6.20	1.10	0.19	0.00		1.74					10.53	

Remarks:

Cruise 11 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> µg-at/l	Reactive NO <sub>2</sub> <sup>-</sup> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
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Time:

Time: 1630; Air Temp 24.6°C; Sky clear, light haze; Sea 1-2'; Wind SSW 8 kts

14S 0	20.9	24.129	10.30	5.20	0.20	0.00	0.18			1.84	7.25'
14M 37	15.2	24.977	6.80	1.30	0.07	0.01	1.37			0.66	
14B 74	15.1	25.927	5.40	0.50			1.85			5.70	

Time:

Time:

Remarks:

Cruise 26 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time: 0935; Air Temp 21.7°C; Sky clear; Sea 1-2'; Wind NW 7 kts</u>													
1S	0	18.7	25.214	5.05	2.35							3.89	6.5'
1M	25	17.1	25.544	5.25	2.25							4.23	
1B	51	15.8	25.841	4.05	1.55							5.27	
<u>Time: 1020; Air Temp 22.3°C; Sky ptly cldy; Sea 1-2'; Wind NW 8 kts</u>													
2S	0	18.2	25.724	5.40	1.90							3.01	9'
2M	24	17.3	26.312	4.70	1.60							2.40	
2B	48	17.4	26.803	4.50	0.80							14.40	
<u>Time: 1620; Air Temp 22.6°C; Sky mostly clear; Sea 1-1.5'; Wind W 2 kts</u>													
3S	0	20.0	25.623	8.25	3.55	0.04	0.02	0.59				3.69	7'
3M	30	17.6	27.294	5.45	2.15	0.42	0.00	1.70				6.59	
3B	60	18.0	25.736	5.40	0.55	0.68	0.00	2.72	0	0		2.08	
<u>Time: 1532; Air Temp 23.6°C; Sky ptly cldy; Sea 2'; Wind NW 2-3 kts</u>													
4S	0	20.0	25.664	8.10	3.40	0.06	0.00	0.85				2.97	6'
4M	35	18.9	26.539	5.80	0.80	0.16	0.00					1.35	
4B	70	18.3	27.594	5.90	0.40	6.48	0.02	0.82	0	0		6.04	

Remarks: NHH Tides: High - 1104; Low - 0450

Cruise 26 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1505; Air Temp 23.2°C; Sky ptly cldy; Sea 1-2'; Wind WNW 7 kts													
5S	0	19.9	25.623	7.80	3.20	0.04	0.00	1.63				3.06	7'
5M	36	18.9	26.395	5.70	1.65	0.14	0.00	1.60				1.10	
5B	73	18.3	27.677	5.80	0.45	1.16	0.00	1.23		0	0	4.50	
<u>Time:</u> 1315; Air Temp 22.1°C; Sky mostly clear; Sea 2'; Wind W 6 kts													
6S	0	19.6	25.769	7.00	2.90	0.60	0.00	0.96				1.59	8.5'
6M	41	19.1	25.946	5.65	1.95							1.52	
6B	82	18.4	28.019	5.95	1.15	0.25	0.01	0.97		0	0	4.69	
<u>Time:</u> 1130; Air Temp 23.5°C; Sky prly cldy; Sea 1-2'; Wind WNW 8-9 kts													
7S	0	19.4	25.646	6.90	2.90	0.04	0.00	1.44				2.27	8.5'
7M	46	19.4	25.702	5.80	2.35	0.20	0.00	1.11				2.56	
7B	92	18.2	28.122	6.35	1.60		0.00	1.35		0	0	6.28	
<u>Time:</u> 1245; Air Temp 23.8°C; Sky ptly cldy; Sea 1-2'; Wind W 6 kts													
8S	0	20.1	25.833	6.95	2.65	0.16	0.00					5.08	9'
8M	43	19.1	27.029	5.20	1.50	0.30	0.00	1.26				1.09	
8B	86	18.4	28.072	6.55	0.80	0.86	0.00	0.86		0	0	4.60	

Remarks:

Cruise 26 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Water Coliform	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk'
<u>Time:</u> 1215; Air Temp 22.3°C; Sky ptly cldy; Sea 2'; Wind WNW 6-7 kts														
9S 0	20.8	25.991	6.50										1.83	9'
9M 49	18.2	27.101	5.50	1.65									1.15	
9B 98	18.2	28.286	6.60	0.85									7.78	
<u>Time:</u>														
<u>Time:</u> 1553; Air Temp 22.7°C; Sky ptly cldy; Sea 1-2'; Wind WSW 2-4 kts														
11S 0	19.9	25.615	7.70	3.00	0.14	0.00	1.07						2.40	6'
11M 35	18.8	26.648	5.70	1.20	0.17	0.01	1.38						1.55	
11B 70	18.3	27.590	6.00	0.40	0.40	0.00	1.00		0	0			6.22	
<u>Time:</u> 1648; Air Temp 23.3°C; Sky ptly cldy; Sea 1-1.5'; Wind WSW 1-2 kts														
12S 0	19.4	25.608	8.00	2.75	0.80	0.00							2.32	6'
12M 32	17.3	25.814	4.15	0.95	0.70	0.00	2.68						1.06	
12B 63	17.9	27.279	5.25	0.45	1.43	0.03			0	0			4.14	

Remarks:

Cruise 26 July 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1345; Air Temp 22.9°C; Sky ptly cldy; Sea 1-2'; Wind WSW 7 kts													
13S 0	19.9	25.627	7.75	3.06	0.04	0.00	1.59					2.73	7.5'
13M 39	19.0	25.927	5.20	2.00	0.18	0.02	1.99					1.42	
13B 78	18.4	27.795	6.30	0.85	0.62	0.00	1.38		0	0		3.68	
<u>Time:</u> 1425; Air Temp 24.4°C; Sky ptly cldy; Sea 1; Wind WNW 4-6 kts													
14S 0	19.3	25.769	9.85	4.40								5.08	5.5'
14M 37	17.2	25.646	4.80	1.30								1.09	
14B 74	18.2	27.582	5.70						0	0		4.70	
<u>Time:</u> 1730; Air Temp 21.9°C; Sky mostly cldy; Sea 2-3'; Wind W 4-5 kts													
15S 0	19.4	25.574	8.15	3.65								4.27	6'
15M 26	17.8	25.916	4.55	1.85								1.89	
15B 52	17.5	26.667	4.90	0.35					0	0		6.49	

Time:

Remarks:

Cruise 9 August 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> -at/l µg-at/l	Reactive NO <sub>2</sub> -at/l µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Water Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0920; Air Temp 25.0°C; Sky hazy; Sea 0-1'; Wind calm														
1S 0	21.6	26.388	6.00	1.55				1.12						5.5'
1M 19	21.3	26.489	5.75	1.80				1.56						
1B 38	20.8	26.501	5.90	1.50				1.34	0.88					
<u>Time:</u> 0950; Air Temp. 23.4°C; Sky overcast; Sea 1'; Wind SSW 5 kts														
2S 0	21.8	26.566	7.70	2.25				1.30			1	0	0	7.5'
2M 24	19.7	27.013	6.60	1.70				1.34			0	0	0	
2B 48	19.6	26.908	4.00	0.90				1.12	1.20	0	0	0	0	
<u>Time:</u> 1640; Air Temp 24.8°C; Sky mostly clear; Sea 0-1'; Wind SW 2-3 kts														
3S 0	22.7	26.470	9.80	3.90	0.00	0.00	0.86							7'
3M 31	19.2	26.691	5.00	1.60	0.62	0.00	0.96							
3B 62	19.1	27.327	4.20	0.60	1.54	0.08	1.22	0.40	0	0				
<u>Time:</u> 1230; Air Temp 24.1°C; Sky mostly cldy; Sea 1-1.5'; Wind SSW 4-5 kts														
4S 0	22.0	26.441	9.45	3.75	1.12	0.20	0.82			23				8.5'
4M 41	19.2	27.128	3.99	0.34	1.78	0.62	1.64			0				
4B 83	19.1	27.133	4.76	1.06	2.26	0.96	1.69	1.52	0	2	0	0		

Remarks: NHH Tides: High - 1058; Low - 0441

Cruise 9 August 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1300; Air Temp 23.9 °C; Sky overcast; Sea 1-1.5'; Wind SSW 2-3 kts													
5S	0	22.2	26.445	8.70	2.50	0.82	0.02	1.14					7.5'
5M	38	19.4	27.136	4.30	0.60			0.78					
5B	76	19.5	27.149	4.30	0.35	2.22	0.10	0.86	2.68	0	0		
<u>Time:</u> 1325; Air Temp 24.6 °C; Sky ptly cldy; Sea 1-1.5'; Wind SW 6.7 kts													
6S	0	22.1	25.943	8.30	1.95	0.50	0.00	0.85		0	0		9.5'
6M	38	19.4	27.132	4.40	0.50	2.74	0.10	0.82		0	0		
6B	76	19.4	27.056	4.50	0.55	5.89*	0.01	1.26	1.16	0	0		
<u>Time:</u> 1100; Air Temp 25.4 °C; Sky ptly cldy; Sea 1'; Wind SSW 9-11 kts													
7S	0	21.7	26.088	8.90	3.20	0.94	0.02	1.14					8.5'
7M	48	19.4	27.167	4.80	0.50	4.40*	0.22	0.70					
7B	96	19.3	27.353	4.80	0.65	1.94	0.06		1.16	0	0		
<u>Time:</u> 1210; Air Temp 23.8 °C; Sky ptly cldy; Sea 1-1.5'; Wind SSW 6-7 kts													
8S	0	21.9	26.057	8.15	2.05			0.41					9'
8M	40	19.2	27.017	4.15	0.95			1.38					
8B	80	19.1	27.082	4.15	0.50			1.74	0.80				

Remarks: \*indicates late NO<sub>2</sub>-NO<sub>3</sub> analysis

Cruise 9 August 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1140; Air Temp 26.4°C; Sky overcast; Sea 1'; Wind SSW 7-9 kts</u>													
9S 0	21.8	26.167	7.50	1.15				1.56					10'
9M 45	19.3	27.393	4.25	0.35				1.19					
9B 90	19.3	26.951	4.20	0.25				1.74	0.60	0	0		
<u>Time: 1600; Air Temp 27.0°C; Sky ptly cldy; Sea 1-1.5'; Wind SW 5-7 kts</u>													
10S 0	22.5	26.627	9.65	3.55				0.40					6.5'
10M 36	19.6	27.327	4.20	0.60				1.26					
10B 72	19.6		4.30	0.55				1.74	0.78	0	0		
<u>Time: 1450; Air Temp 28.4°C; Sky mostly cldy; Sea 1-2'; Wind WSW 4-5 kts</u>													
11S 0	22.4	26.415	9.30	3.00	1.58*	0.00		1.12		0	0		6.5'
11M 37	19.5	27.092	8.40	2.30	5.76*	0.08		1.56		0	0	0	
11B 74	19.5	27.111	4.40	0.60	5.88*	0.02		1.34		0	2	0	0
<u>Time: 1700; Air Temp 24.4°C; Sky mostly clear; Sea 1-2'; Wind SW 2 kts</u>													
12S 0	22.8	26.245	9.85	3.45	0.44	0.00		0.86		1	0	0	7'
12M 28	19.4	26.615	5.40	1.40	0.77	0.03		0.96		0	0	0	
12B 56	19.3	27.301	4.30	0.75	1.46	0.02		1.22	1.12	0	1	0	0

Remarks: \* indicates late NO<sub>2</sub>-NO<sub>3</sub> analysis

Cruise 9 August 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
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Time: No sample taken at this station

Time: 1410; Air Temp 25.1°C; Sky ptly cldy; Sea 1-1.5'; Wind WSW 5-6 kts

14S 0	22.15	25.932	8.10	1.85	1.38**	0.03**	0.40						11'
14M 37	19.4	26.302	7.00*	1.40	1.17	0.03**	0.86						
14B 74	19.1	27.166	4.75	0.55	5.98	0.03**	1.22		0	0			

Time: 1745; Air Temp 24.5°C; Sky ptly cldy; Sea 1'; Wind WSW 2-3 kts

15S 0	22.6	26.518	9.80	3.25					1				7'
15M 26	20.1	26.524	9.20	2.55		0.86	0.90		4				
15B 52	19.7	27.037	3.65	0.60		1.86	9.90	0	2	0	0		

Time: 1530; Air Temp 26.0°C; Sky overcast; Sea 1-1.5'; Wind SW 5 kts

16S 0	22.5	26.451	9.70	3.05		0.48							6.5'
16M 38	19.4	27.100	4.35	0.60		1.74							
16B 76	19.4	27.350	4.30	0.35		1.08	0.78	0		0			

Remarks: \* D.O. past endpoint;

\*\* Indicates late NO<sub>2</sub>-NO<sub>3</sub> analysis

Cruise 31 August 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> µg-at/l	Reactive NO <sub>2</sub> <sup>-</sup> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 0929; Air Temp 22.5°C; Sky clear; Sea 0-1'; Wind N 6 kts</u>															
1S 0	22.0	26.900	5.4	2.3	0.02	0.03	4.53							2.09	8'
1M 24	21.9	26.833	6.3	3.1	1.14	0.02	3.60							2.44	
1B 48	21.7	26.927	5.9	1.9	0.60	0.02	2.99	0.38	1100*	100*				2.85	
<u>Time: 1010; Air temp 22.6°C; Sky clear; Sea 0-1'; Wind NNE</u>															
2S 0	21.5	27.258	6.6	2.6	0.58	0.02	2.41			21		16		2.10	9'
2M 24	21.2	27.439	6.2	1.9	0.79	0.01	2.53			17		7		2.74	
2B 48	20.8	27.576	4.6	1.0	0.92	0.02	1.02	1.78	0	4	0	1		6.19	
<u>Time: 1030; Air Temp 22.4°C; Sky clear; Sea 0-1'; Wind calm</u>															
3S 0	22.2	26.705	7.1	1.2	0.52	0.02	2.21							0.28	12'
3M 33	20.8	26.784	6.9	1.6	0.62	0.02	1.64							0.57	
3B 66	20.8	27.754	3.1	0.8	2.50	0.08	2.96	1.30	0	0				5.81	
<u>Time: 1055; Air Temp 23.0°C; Sky clear; Sea 0-1'; Wind SE 2 kts</u>															
4S 0	22.3	26.645	7.2	1.8	1.36	0.00	2.16							0.33	12'
4M 36	20.2	26.700	5.5	1.0	0.60	0.02	1.86							0.18	
4B 72	19.6	27.843	3.6	0.8	2.61	0.07	2.27	0.56	0	0				4.10	

Remarks: NHH Tides: High - 0346; Low - 0946

\* estimated

Cruise 31 August 1972

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1115; Air Temp 23.3°C; Sky clear; Sea 0-1'; Wind ESE 4 kts													
5S 0	22.35	26.744	7.1	1.5	1.20	0.00	1.34					0.31	13'
5M 39	20.1	26.680	5.1	1.4*	0.82	0.02	1.90					0.14	
				1.9**									
5B 78	20.0	29.837	3.6	0.8	1.58	0.06	2.63	1.22	0	0		4.64	
<u>Time:</u> 1135; Air Temp 23.6°C; Sky clear; Sea 1-2'; Wind SE 4 kts													
6S 0	22.5	26.748	7.9	2.7	0.50	0.02	1.90					-0.05	13'
6M 37	20.1	26.824	3.5	1.1	0.52	0.00	1.82					-0.37	
6B 74	19.9	27.533	4.0	0.8	2.52	0.10	2.53	0.66	0	0		4.62	
<u>Time:</u> 1205; Air Temp 23.7°C; Sky clear; Sea 0-1'; Wind Se 1 kts													
7S 0		26.670	7.9	1.7			1.30					-0.36	14'
7M 51		26.851	5.2	1.7	2.73	0.09	1.74					0.20	
7B105		27.639	4.4	0.9	2.85	0.09	1.96	0.56	0	0		6.18	
<u>Time:</u> 1245; Air Temp 29.1°C; Sky clear; Sea calm; Wind SE 5 kts													
8S 0	23.2	26.788	8.0	2.2			1.60					-0.13	12'
8M 45	19.2	27.334	3.8	2.0			2.74					0.58	
8B 90	19.2	27.839	4.2	0.5	2.02	0.08	1.83	2.06	0	0		9.53	

Remarks: \* 5 day d.o. past end point

\*\* 100 ml sample d.o. used to calculate

Cruise 31 August 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> -at/l µg-at/l	Reactive NO <sub>2</sub> -at/l µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1310; Air Temp 28.1°C; Sky clear; Sea 0-1'; Wind SE 2 kts</u>													
9S 0	23.4	26.697	8.9	2.8	1.78	0.00	1.22						11.5'
9M 49	19.9	26.994	3.7	1.3	1.24	0.05	2.16					0.64	
9B 99	19.2	27.880	4.6	0.4	1.93	0.05	2.87	0.30	0	0		5.13	
<u>Time: 1340; Air Temp 20.7°C; Sky clear; Sea 0-1'; Wind Se 4 kts</u>													
10S 0	22.6	26.847	8.3	2.2	0.61	0.01	1.86		1	0	0	0.61	12'
10M42	20.2	27.590	3.6	1.0	1.04	0.06	1.96		3	0	0	1.83	
10B84	20.1	27.854	4.3	1.0	1.96	0.06	2.53	0.86	0	0	0	9.56	
<u>Time: 1405; Air Temp 30.7°C; Sky clear; Sea 0-1'; Wind calm</u>													
11S 0	23.2	26.785	8.3	2.0	0.50	0.00	1.26		1	0	0	0.03	11.5'
11M37	20.1	27.147	5.5	0.9	0.98	0.02	1.74		2	0	0	3.13	
11B74	19.7	27.895	4.2	0.9	2.04	0.06	2.13	1.04	0	1	0	13.27	
<u>Time: 1430; Air Temp 30.8°C; Sky clear; Sea 0-1'; Wind SSE 5-5 kts</u>													
12S 0	23.2	26.733	7.9	1.9	0.62	0.00	2.12		0	0	0	0.06	12.5'
12M36	19.8	26.731	5.3	1.1	0.43	0.01	1.69		1	0	0	0.81	
12B72	19.2	27.853	3.3	0.6	1.70	0.08	2.73	1.20	0	1	0	7.45	

Remarks:

Cruise 31 August 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1505; Air Temp 28.0°C; Sky clear; Sea 0-1'; Wind SSE 5-6 kts													
13S 0	23.8	26.785	8.3	2.5	0.55	0.01	2.12					0.07	12'
13M36	21.1	26.691	7.1	1.1	3.46	0.14	1.60					0.47	
13B78	20.1	27.852	4.0	1.6	2.58	0.12	2.61	0.20	0	0	0	9.72	
<u>Time:</u> 1540; Air Temp 28.0°C; Sky clear; Seas 0-1'; Wind SSE 6 kts													
14S 0	23.6	26.696	9.5	2.7	0.57	0.01	1.38					0.01	12'
14M48	21.1	26.761	4.9	0.7	1.19	0.03	1.82					-0.06	
14B96	20.0	27.80 *	4.2	0.8	1.15	0.05	1.24	1.14	0	0	0	7.94	
<u>Time:</u> 1620; Air Temp 28.4°C; Sky clear; Sea 0-1'; Wind SE 6 kts													
15S 0	23.0	26.775	7.9	1.8	0.66	0.00	1.64					-0.34	12'
15M30	19.9	26.782	8.1	1.4	0.46	0.00						0.94	
15B60	19.8	27.377	3.1	1.1	1.54	0.06	3.05	1.70	0	5	0	4.94	
<u>Time:</u>													

Remarks: \*estimated salinity used for phosphate correction

Cruise 21 September 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	* B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> µg-at/l	Reactive NO <sub>2</sub> <sup>-</sup> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0935; Air Temp 13.3°C; Sky cloudy; Sea 2-3'; Wind NNE, 10 kts													
1S 0	18.6	27.631	6.0	1.1	4.31	0.09	3.26			7	4	9.58	6.5'
1M 18	18.7	27.688	6.1	1.0	8.93	0.07	3.09			14	3	6.81	
1B 36	18.7	27.711	6.0	1.1			2.53	0.18	0	20	0	8	7.61
<u>Time:</u> 1010; Air Temp 14.0°C; Sky cloudy; Sea 1-2'; Wind NNE 7 kts													
2S 0	19.5	28.105	6.5	1.2	4.91	0.07	1.87					5.86	8'
2M 27	19.4	28.107	6.6	1.0	4.63	0.07	1.83					6.71	
2B 54	19.4	28.153	6.7	1.4	4.20	0.08	3.03			0	0	6.85	
<u>Time:</u> 1050; Air Temp 15.1°C; Sky cloudy; Sea 2-3'; Wind NNE 7 kts													
3S 0	19.75	27.775	7.0	1.9	1.45	0.07	2.51					1.38	12'
3M 33	19.75	27.799	6.9	1.4	2.13	0.07	2.27					0.63	
3B 66	19.75	27.973	6.5	0.8	4.09	0.11	3.31					3.02	
<u>Time:</u> 1107; Air Temp 15.40°C; Sky cloudy; Sea 1-2'; Wind NNE 9 kts													
4S 0	19.75	27.846	7.2	2.2	2.19	0.07	1.96			0	0	1.17	12'
4M 39	19.8	27.849	7.0	1.6	2.70	0.08	1.96			0	0	1.35	
4B 78	19.9	28.040	6.6	1.3	2.98	0.08	2.01	2.24	0	3	0	4.89	

Remarks: NHH tides: High - 0312; Low - 0912  
 \* 6 day B.O.D.

A-17

Cruise 21 September 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1138; Air Temp 15.7°C; Sky cloudy; Sea 1-2'; Wind NNE 8 kts													
5S	0	19.75	27.918	7.0	1.8	1.61	0.09	2.01				1.63	12.5'
5M	40	19.8	27.903	6.9	1.9	2.20	0.08	2.01				1.41	
5B	80	20.0	28.112	6.8	1.7	3.75	0.11	2.01				9.65	
<u>Time:</u> 1250; Air Temp 16.6°C; Sky cloudy; Sea 2'; Wind NE 12 kts													
6S	0	20.0	27.669	6.1	0.8	2.42	0.12	2.22		1	0	1.64	11'
6M	39	20.0	27.661	6.5	1.2	2.87	0.11	1.75		0	0	1.44	
6B	78	20.1	28.098	5.7	0.9	3.35	0.13	1.75	1.80	0	2	0	10.39
<u>Time:</u> 1330; Air Temp 16.2°C; Sky cloudy; Sea 2'; Wind NE 11 kts													
7S	0	18.0	27.571	6.6	1.1	3.31	0.07	1.23		0	0	0.71	13'
7M	47		27.551	6.9	1.1	4.28	0.06	2.96		0	0	0.58	
7B	94		28.342	5.1	1.1	8.24	0.16	2.17	1.22	0	0	0	20.73
<u>Time:</u> 1410; Air Temp 16.6°C; Sky cloudy; Sea 2-3'; Wind NE 9 kts													
8S	0	19.0	27.668	6.5	1.1	1.93	0.06	2.27				1.06	11'
8M	48		27.658	6.5	0.9	2.48	0.08	1.87				1.23	
8B	84		28.121	5.3	0.5	5.80*		2.65				8.04	

Remarks: \*total reactive nitrogen

Cruise 21 September 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1435; Air Temp 16.6°C; Sky cloudy; Sea 2-3'; Wind NE 9 kts													
9S 0	20.0	27.712	6.8	1.3	1.75	0.03	1.87					0.71	12'
9M 44	20.0	27.693	6.6	1.2	3.14	0.10	2.13					0.88	
9B 88	20.0	28.486	5.3	1.0	4.73	0.23	2.40					12.26	
<u>Time:</u> 1503; Air Temp C; Sky lt rain, cloudy, Sea 2-3'; Wind NE 10 kts													
10S 0	19.0	27.831	6.7	1.4	2.10	0.08	1.65		0	0	1	1.56	13'
10M 42	19.0	27.835	6.6	1.6	3.38	0.06	2.13		1	0	0	1.23	
10B 84	19.2	28.182	6.1	1.4	2.90	0.12	2.22	2.22	0	0	0	7.30	
<u>Time:</u> 1604; Air Temp C; Sky cloudy; Sea 2'; Wind NE 12 kts													
11S 0	19.7	27.854	7.0	1.5	1.39	0.09	1.79					1.51	11'
11M 36	19.7	27.936	6.8	1.7	2.89	0.09	2.22					3.48	
11B 72	19.7	27.961	6.7	1.7	1.81	0.09	1.53		0	0	0	5.10	
<u>Time:</u> 1640; Air Temp 17.7°C; Sky cloudy; Sea 2'; Wind NE 10 kts													
12S 0	19.2	27.696	6.4	1.9	3.97	0.07	2.61					1.93	
12M 31	19.2	27.696	6.6	1.7	4.70	0.06	1.75					2.20	
12B 62	19.1	27.962	6.7	1.4	4.60	0.04	2.17		0	0	0	2.75	

Remarks:

Cruise 21 September 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1710; Air Temp C; Sky cloudy, lt rain; Sea 2-3'; Wind NE 11 kts													
13S 0	20.5	27.609	6.4	1.1	3.14	0.12	2.57					2.52	9'
13M 39	20.5	27.616	6.5	1.0	2.80	0.10	3.03					2.67	
13B 78	20.2	27.824	6.2	1.0	4.32	0.08	2.19					3.48	
<u>Time:</u> 1733; Air Temp C; Sky cloudy; sea 2'; Wind NE 10 kts													
14S 0	20.1	27.591	7.0	1.4	2.08	0.12	2.06					1.00	11'
14M 39	20.1	27.576	6.9	1.3	1.88	0.13	2.19					1.13	
14B 78	20.1	27.600	6.8	2.8	2.65	0.14	1.92					2.05	
<u>Time:</u> 1815; Air Temp 16.6°C; Sky cloudy; Sea 2-3'; Wind NE 8 kts													
15S 0	18.5*	27.709	6.4	1.4	5.99	0.03	2.75		1	1	0	2.26	11'
15M 30		27.715	6.5	1.2	5.67	0.03	1.79		1	0	0	2.10	
15B 60		27.972	6.6	1.2	4.81	0.07	1.65	2.94	0	0	0	5.38	

Time:

Remarks: \* Bucket thermometer

Cruise 5 October 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0921; Air Temp 13.8°C; Sky partly cloudy; Sea 0-1'; Wind NNE 8 kts													
1S 0	17.7	27.162	6.7	0.90	13.46	0.14	3.39					6.16	7'
1M 24		27.145	7.0	1.20	6.58	0.12	2.83					8.41	
1B 48		27.204	6.85	0.75	11.74	0.26	3.42	0.08	3	0		8.13	
<u>Time:</u> 1015; Air Temp 15.9°C; Sky overcast, lt rain; Sea 1-2'; Wind E 12 kts													
2S 0	18.6	27.664	7.10	1.10	6.21	0.01	2.27		4	0	6.66	7.5	
2M 25		27.662	8.00	1.70	9.36	0.04	2.09		3	1	9.29		
2B 50		27.650	7.15	0.85		0.04	2.22		1	0	9.15		
<u>Time:</u> 1056; Air Temp 16.7°C; Sky overcast; Sea 2-3'; Wind E 15-20 kts													
3S 0	18.8	28.068	7.20	1.30	9.48	0.02	2.27					2.48	10.5'
3M 32		28.068	7.20	0.80	8.56	0.04	2.31					2.16	
3B 65		28.070	7.00	1.00	9.38	0.02	2.22	3.20	0	0		3.81	
<u>Time:</u> 1130; Air Temp 16.2°C; Sky ptly cloudy; Sea 2-3'; Wind NNE 13 kts													
4S 0	18.9	28.068	7.2	0.95	9.67	0.03	2.39		0	0	2.51	13'	
4M 30	18.9	28.055	6.9	0.65	9.36	0.04	1.65		18			1.51	
4B 60	18.9	28.088	6.5	0.50	10.38	0.02	2.46	2.26	0	1	0	1.85	

Remarks: NHH Tides: High - 0315; Low - 0916

Cruise 5 October 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1215; Air Temp 16.7°C; Sky ptly cloudy; Sea 2-3'; Wind NNE 17-20 kts													
5S	0	19.0	28.006	7.6	1.00	6.69	0.01	1.45				1.42	13'
5M	32	19.0	28.044	6.9	0.65	8.79	0.01	1.79				2.87	
5B	65	18.9	28.160	6.3	0.55	10.90	0.01	2.22	2.00	0	0	5.56	
<u>Time:</u> 1253; Air Temp 17.8°C; Sky ptly cloudy; Sea 2-4'; Wind E 14-17 kts													
6S	0	19.1	28.043	7.6	1.20	5.59	0.01	1.39		0	0	1.33	13.5'
6M	35	19.1	28.092	6.9	0.65	7.77	0.03	1.70		0	0	1.55	
6B	70	19.1	28.180	6.5	0.75	7.22	0.02	2.00	2.76	0	2	5.29	
<u>Time:</u> 1335; Air Temp 17.8°C; Sky cloudy, Sea 2-3'; Wind E 15 kts													
7S	0	19.0	27.985	8.0	1.30	4.12	0.06	1.61				1.47	11'
7M	40	18.9	28.091	7.5	1.20	6.16	0.04	2.22				1.38	
7B	80	18.8	28.247	6.5	0.50	4.26	0.04	2.13	0.76	0	0	13.01	
<u>Time:</u> 1505; Air Temp 18.5°C; Sky ptly cloudy; Sea 2-3'; Wind ENE 9-12 kts													
8S	0	19.05	27.941	7.10	0.75	6.74	0.06	1.75				1.79	12.5'
8M	35	19.0	28.016	7.10	0.65	8.76	0.04	2.31				1.56	
8B	70	19.0	28.109	9.00		7.33	0.02	2.09	1.96	0	0	5.93	

Remarks:

Cruise 5 October 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1430; Air Temp 18.7°C; Sky overcast; Sea 3-4'; Wind NE 13-17 kts													
9S 0	19.2	27.716	8.55	1.55	2.36	0.03	2.09					1.56	1 10'
9M 43	19.1	27.878	8.05	1.25	3.34	0.02	2.17					2.73	
9B 86	18.8	28.396	6.50	0.60	9.08	0.02	2.09					6.00	
<u>Time:</u> 1735; Air Temp 18.3°C; Sky ptly cloudy; Sea 3-4'; Wind ESE 13 kts													
10S 0	19.1	27.820	8.00	1.10	2.32	0.04	1.83					1.96	10'
10M 36	19.1	27.897	7.80	0.00	3.36	0.04	1.53					2.15	
10B 72	18.9	28.161	6.20	1.20	9.36	0.04	2.17					6.04	
<u>Time:</u> 1800; Air Temp 18.2°C; Sky ptly Cloudy; Sea 3-4'; Wind ESE 13-15 kts													
11S 0	19.0	27.857	7.10	1.00	9.17	0.03	1.83					2.41	9'
11M 32	19.0	27.834	6.90	0.90	9.46	0.04	2.48					2.85	
11B 65	18.9	28.038	7.00	1.00	9.86	0.04	2.27	2.10	0	0		4.34	
<u>Time:</u> 1825; Air Temp 17.2°C; Sky ptly cloudy; Sea 3-4'; Wind ESE 15 kts													
12S 0	19.0	27.747	7.0	1.00			2.53					2.25	
12M 33	19.0	27.703	6.9	1.20	9.26	0.04	2.57					2.46	
12B 66	19.0	27.758	6.6	0.70	4.69	0.01	2.32	2.20	0	0		4.87	

Remarks:

Cruise 5 October 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1645; Air Temp 18.2°C; Sea 3-4; Sky m cloudy; Wind E 15 kts													
13S 0	19.1	27.695	6.9	0.50	7.26	0.04	2.18					2.21	
13M 32	19.1	27.784	6.9	1.00	9.36	0.04	2.32					2.93	
13B 65	19.0	27.955	6.5	0.90	7.86	0.04	1.91	2.44	0	0		4.71	
<u>Time:</u> 1547; Air Temp 18.7°C; Sea 3-4'; Sky ptly cloudy, Wind ENE 12 kts													
14S 0	19.0	27.695	7.0	0.80	8.56	0.04	1.64					2.73	
14M 35	19.0	27.705	6.9	1.20	7.36	0.04	1.31					2.18	
14B 70	19.0	27.792	6.3	0.70	5.16	0.00	2.09					11.70	
<u>Time:</u> 1850; Air Temp 17.9°C; Sea 3-4'; Sky (M); Wind 12-14 kts													
15S 0	18.9	27.625	7.2	1.10	8.28	0.02	2.27			0	0	3.33	
15M 24	18.9	27.60*	7.2	0.70	3.17	0.01	2.31*			0	0	0	
15B 48	18.8	27.692	7.2	0.90	5.69	0.01	2.53	1.84	0	0	0	6.88	

Time:

Remarks: \* Estimated salinity used for phosphate correction

Cruise 2 November 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> µg-at/l	Reactive NO <sub>2</sub> <sup>-</sup> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0820; Air Temp 12.2°C; Wind SSW 6-7 kts; Sky overcast/rain; Sea 0-1'															
1S	0	11.45	27.137	8.3	0.7		0.11	2.83						5.80	8'
1M	24	11.4	27.113	8.0	0.9		0.08	2.16						8.13	
1B	48	11.4	27.215	8.4	1.1		0.08	3.16						6.17	
<u>Time:</u> 0850; Air Temp 12.5°C; Sky overcast/rain; Wind SSW 6-7 kts; Sea 0-1'															
2S	0	13.3	27.967	8.4	0.8		0.06	2.48		2		0		4.71	8'
2M	30	13.3	27.954	8.5	0.9		0.02	2.48		1		2		5.87	
2B	60	13.3	27.933	8.4	0.8		0.02	2.01	2.38	0	1	0		6.31	
<u>Time:</u> 0940; Air Temp 12.7°C; Sky overcast/rain; Wind SW 5-6 kts; Sea 1-1.5'															
3S	0	13.7	28.216	8.2	0.8		0.09	2.22						4.32	8.5'
3M	36	13.6	28.207	8.2	0.9		0.08	2.28						5.90	
3B	72	13.6	28.201	8.3	0.7		0.05	2.17	2.38	0		0		8.31	
<u>Time:</u> 1000; Air Temp 13.4°C; Sky overcast/rain; Sea 1-2'; Wind SW 1-3 kts															
4S	0	13.7	28.246	8.1	0.6		0.08	2.17		1		0		4.68	8.5'
4M	39	13.6	28.135	8.2	1.0		0.09	2.22		3		0		6.32	
4B	78	13.5	28.265	8.0	0.5		0.08	2.32	2.98	0	0	0		8.00	

Remarks: NHH Tides: High - 0802; Low - 0209

Cruise 2 November 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1145; Air Temp 13.6°C; Sky overcast; Sea 1'; Wind SSW 2-3 kts													
5S	0	13.85	28.234	8.1	0.5		0.06	2.54				4.79	9'
5M	39	13.8	28.222	8.1	0.75		0.08	2.28				3.56	
5B	76	13.6	28.242	8.1	0.65		0.06	2.09	2.32	0	0	5.94	
<u>Time:</u> 1215; Air Temp 13.7°C; Sky overcast; Sea 1-2'; Wind SSW 1-3 kts													
6S	0	13.9	28.248	8.2	0.8		0.12	2.54		0	0	3.51	9'
6M	39	13.9	28.102	8.2	0.95		0.05	2.05		0	0	3.79	
6B	76	13.7	28.217	8.3	0.9		0.16	1.70	2.22	0	1	7.43	
<u>Time:</u> 1420; Air Temp 14.6°C; Sky overcast; Sea 1'; Wind S 2-3 kts													
7S	0	14.1	28.110	8.2	0.9		0.04	2.09				2.29	10'
7M	48	14.0	28.126	8.0	0.5		0.05	2.13				3.08	
7B	94	13.8	28.255	8.1	0.7		0.10	2.13	1.50	0	0	4.05	
<u>Time:</u> 1330; Air Temp 14.3°C; Sky overcast; Sea 1'; Wind S 3-5 kts													
8S	0	13.9	28.137	8.4	0.95		0.08	2.39				2.79	9'
8M	45	13.7	28.240	8.0	0.55		0.06	1.87				3.94	
8B	88	13.6	28.332	8.2	0.85		0.12	3.02	2.30	0	0	4.69	

Remarks:

Cruise 2 November 1972

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1300; Air Temp 14.2°C; Sky overcast; Sea 1'; Wind S 1-3 kts</u>															
9S 0	13.8	28.360	8.2	0.65		0.10		2.36						1.70	12'
9M 49	13.7	28.40*	8.1	0.55		0.06		2.17*						1.54	
9B 96	13.6	28.423	7.9	0.35		0.15		2.02						7.20	
<u>Time: 1040; Air Temp 13.7°C; Sky lt rain/overcast; Sea 1'; Wind S 6-7 kts</u>															
10S 0	13.75	28.256	8.2	0.7		0.10		2.39						1.15	12'
10M 42	13.7	28.150	8.2	0.55		0.11		2.04						1.55	
10B 84	13.5	28.325	8.2	0.65		0.16		2.17						7.00	
<u>Time: 1110; Air Temp 12.9°C; Sky overcast/lt rain; Sea 1-2'; Wind SSW 2-3 kts</u>															
11S 0	13.7	28.246	8.0	0.5		0.10		2.54						4.47	9'
11M 38	13.6	28.166	8.2	0.7		0.11		2.17						4.57	
11B 76	13.5	28.279	8.4	2.0		0.10		2.17	2.88	0	0			8.98	
<u>Time: 1620; Air Temp 15.0°C; Sky overcast; Sea 1-2'; Wind SSW 6-8 kts</u>															
12S 0	13.7	27.937	8.5	0.6		0.04		2.35						1.86	9'
12M 33	13.7	27.919	8.7	0.9		0.03		2.44						2.34	
12B 64	13.8	28.063	8.3	0.65		0.09		2.13	2.76	0	0			6.19	

Remarks:

Cruise 2 November 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1500; Air Temp 14.7°C; Sky overcast; Sea 1'; Wind S 2-3 kts													
13S 0	13.95	27.983	8.4	0.85*		0.04		2.13				2.04	10'
13M 39	13.95	27.970	8.1	0.3 *		0.07		2.31				2.89	
13B 76	13.95	28.099	8.0	0.5		0.10		2.23	2.08	0	0	4.98	
<u>Time:</u> 1540; Air Temp 14.4°C; Sky overcast; Sea 1-2'; Wind SSW 5 kts													
14S 0	14.1	27.979	8.1	0.3		0.10		2.39				1.60	11'
14M 39	14.1	28.023	8.2	0.65		0.10		2.39				2.68	
14B 76	14.0	28.153	8.2	0.45		0.08		2.66				8.28	
<u>Time:</u> 1650; Air Temp 14.1°C; Sky overcast; Sea 2'; Wind 3-4 kts													
15S 0	13.25	27.714	8.3	0.7		0.05		3.57		4	0	2.01	dark
15M 27	13.3	27.662	8.3	0.45		0.05		2.23		2	0	1.65	
15B 52	13.4	27.987	8.2	0.55		0.08		1.83	2.36	0	0	3.89	

Time:

Remarks: \*B.O.D. values based on correction of probable error

Cruise 4 December 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> µg-at/l	Reactive NO <sub>2</sub> <sup>-</sup> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0823; Air Temp 2.2°C; Sky overcast; Sea 1-2'; Wind NE 13-15 kts													
1S 1-3	7.4	26.383	9.30	0.90	11.17	0.03	2.60					8.74	5'
1M 22	7.8	26.700	9.10	0.30	13.26	0.04	3.17					10.82	
1B 43	7.9	26.702	9.35	0.65	11.94	0.06	2.52					9.12	
<u>Time:</u> 1750; Air Temp 2.2°C; Sky overcast; Sea 1-2'; Wind E 10 kts													
2S 1-3	7.0	26.725	9.55	0.85	9.15	0.05	2.73		170	75	5.81	7'	
2M 25	7.2	26.803	9.30	0.40	9.92	0.08	2.82		60	57	4.68		
2B 46	7.5	27.180	9.20	0.60	13.54	0.06	2.60	1.62	2000	8 0	4	6.24	
<u>Time:</u> 1400; Air Temp 3.9°C; Sky overcast; Sea 1-2'; Wind NE 10 kts													
3S 1-3	7.8	26.951	9.45	0.55	11.93	0.07	2.12					2.75	7'
3M 30	8.3	27.407	9.50	0.50	10.76	0.04	2.70					5.51	
3B 58	8.3	27.502	9.05	0.35	14.94	0.06	2.22	2.22	0	1000		19.29	
<u>Time:</u> 1420; Air Temp 2.2°C; Sky overcast; Sea 1-2'; Wind NE 8-10 kts													
4S 1-3	7.5	26.928	9.40	0.40	10.95	0.05	1.95		1	1	2.89	7'	
4M 32	7.6	26.902	9.60	0.60	11.44	0.06	2.38		5	2	3.13		
4B 61	8.2	27.541	9.20	0.60	11.55	0.05	2.91	1.90	0	6 0	1	18.60	

Remarks: NHH Tides: High - 0949; Low - 0336

Cruise 4 December 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> -at/l	Reactive NO <sub>2</sub> -at/l	Ortho- phosphate μg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1450; Air Temp 1.7 C; Sky overcast; Sea 2-3'; Wind ENE 11-13 kts</u>													
5S	1-3	7.8	27.003	9.40	0.55	13.43	0.07	2.69				3.28	7'
5M	34	7.8	27.059	9.40	0.60	9.13	0.07	2.90				2.40	
5B	64	8.4	27.601	9.05	0.25	8.75	0.05	3.05	1.64	0	1000 <sup>1</sup>	16.16	
<u>Time: 1215; Air Temp 2.8 C; Sky overcast; Sea 1-2'; Wind ENE 9 kts</u>													
6S	1-3	7.8	27.069	9.45	0.65	10.74	0.06	2.60		3	3	3.37	10'
6M	42	8.2	27.138	9.40	0.60	11.53	0.07	2.83		4	1	2.97	
6B	81	8.3	27.632	9.15	0.70	12.34	0.06	2.57	1.92	0	1	0	13.30
<u>Time: 1100; Air Temp 2.2 C; Sky overcast; Sea 2-3'; Wind ENE 10-11 kts</u>													
7S	1-3	7.9	27.458	9.50	0.75	11.50	0.10	2.65				2.97	8'
7M	50	7.9	27.446	9.45	0.35	13.10	0.10	2.22				2.24	
7B	100	8.2	27.714	9.10	0.60	11.40	0.10	3.00	1.78	0	0	7.59	
<u>Time: 1520; Air Temp 3.3 C; Sky overcast; Sea 1'; Wind ENE 10-12 kts</u>													
8S	1-3	7.8	27.169	9.90	0.80	14.12	0.08	1.95				3.03	7'
8M	40	7.8	27.208	9.00	0.00	13.72	0.10	3.12				2.69	
8B	76	8.3	27.669	9.20	0.60	9.23	0.07	2.70	1.24	0	0	10.30	

Remarks: <sup>1</sup> estimate

Cruise 4 December 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1600; Air Temp 1.7°C; Sky overcast/lt rain; Sea 3'; Wind ENE 10 kts</u>															
9S	1-3	7.8	27.196	9.50	0.90	11.52	0.08	1.95							4.69
9M	43	7.9	27.256	9.50	0.50	13.12	0.08	2.26							2.52
9B	81	8.3	27.503	9.10	0.55	13.40	0.10	2.27							4.04
<u>Time: 1635; Air Temp 1.1°C; Sky overcast/drizzle; Sea 1-2'; Wind E 10 kts</u>															
10S	1-3	7.5	27.229	9.40	0.40	10.81	0.09	2.12							3.23
10M	42	7.7	27.184	9.30	0.30	7.16	0.04	1.74							2.66
10B	84	8.2	27.584	9.00	0.35	9.34	0.06	1.53							8.10
<u>Time: 1710; Air Temp 1.7°C; Sky overcast/rain; Sea 2-3'; Wind E 10-13 kts</u>															
11S	1-3	7.4	26.840	9.60	0.90	9.94	0.06	2.47							3.61
11M	32	7.3	26.965	9.50	0.45	11.94	0.06	2.26							2.61
11B	65	8.0	27.523	9.25	0.50	8.46	0.04	2.65	1.42	0	0				7.81
<u>Time: 1330; Air Temp 3.9°C; Sky overcast; Sea 1-2'; Wind E 9-10 kts</u>															
12S	1-3	7.8	26.867	9.50	0.45	10.34	0.06	1.86							2.73
12M	32	7.8	26.922	9.65	0.70	11.54	0.06	2.82							2.83
12B	65	8.6	27.548	9.30	0.75	10.06	0.04	2.31	1.84	0	0				14.46

Remarks:

Cruise 4 December 1972 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed water	Fecal Coliform Sed water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1300; Air Temp 3.10°C; Sky overcast, Sea 2-3'; Wind E 8-9 kts													
13S 1-3	7.8	26.860	9.70	0.90	10.34	0.06	2.17					3.29	
13M 37	7.8	26.957	9.60	0.85	11.74	0.06	3.08					2.84	
13B 73	8.4	27.494	9.15	0.50	11.75	0.05	2.87	1.54	0	0		12.60	
<u>Time:</u> 1020; Air Temp 2.2°C; Sky overcast; Sea 2-3'; Wind E 11 kts													
14S 1-3	7.5	26.854	9.50	0.55	9.16	0.04	2.73					3.77	
14M 35	7.6	26.893	9.55	0.55	6.32	0.04	2.16					2.74	
14B 68	8.3	27.453	9.20	0.55	8.75	0.04	2.83					4.69	
<u>Time:</u> 0925; Air Temp 2.2°C; Sky overcast; Sea 1-2'; Wind E 10 kts													
15S 1-3	8.0	27.149	9.40	0.55	9.75	0.05	2.12		3	1	1	3.96	
15M 27	8.0	27.245	9.30	0.60			2.90		5	1	1	3.54	
15B 53	8.1	27.217	9.25	0.75	10.36	0.04	2.60	2.64	0	6	0	4.28	

Time:

Remarks:

Cruise 11 January 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0925; Air Temp 5.5°C; Wind 9-14 kts; 250° Mag; Sea 0-1; Sky clear													
1S	0-1	0.05	25.162	10.90	1.90	13.92	0.08	3.49				7.12	5'
1M	17	0.40	25.163	11.05	1.80	13.13	0.07	1.85				6.49	
1B	35	0.60	26.046	11.05	1.15	14.94	0.06	2.26				10.65	
<u>Time:</u> 0955; Air Temp 5.6°C; Wind 14 kts; 250° Mag; Sky clear; Sea 1-2'													
2S	0-1	2.30	26.276	11.00	1.00	17.94	0.06	1.95		5	6	6.96	6'
2M	25	2.20	26.326	10.95	0.80	10.95	0.05	1.97		7	2	7.32	
2B	48	2.20	26.311	10.85	1.05	12.54	0.06	2.01	1.44	13000*10	100* 3	7.66	
<u>Time:</u> 1405; Air Temp 3.3°C; Wind 16 kts; 265° Mag; Sea 1-2'; Sky clear													
3S	0-1	2.90	26.612	10.80	0.30	10.36	0.04	1.73				4.35	7'
3M	30	2.80	26.655	10.70	0.95	11.16	0.04	2.26				5.46	
3B	58	3.00	27.057	10.60	0.60	11.57	0.03	2.12	2.04	0	0	8.90	
<u>Time:</u> 1425; Air Temp 6.6°C; Wind 14 kts; 260° Mag; Sea 2-3'; Sky clear													
4S	0-1	2.90	26.624	10.60	0.40	13.55	0.05	2.31		3	1	4.53	6'
4M	33	2.80	26.617	10.80	0.75	6.26	0.04	1.34		5	4	4.93	
4B	63	3.00	27.072	10.60	0.40	9.57	0.03	2.38	1.56	0	0	7.13	

Remarks: NHH Tides: High 0333-1537; Low 0950-2209  
 \* estimated

Cruise 11 January 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1445; Air Temp 5.0°C; Wind 16 kts; 260° Mag; Sea 2-3'; Sky clear															
5S	0-1	2.9	26.597	10.80	0.75	13.94	0.04	1.48						4.81	7'
5M	35	2.8	26.615	11.00	0.65	9.15	0.05	1.44						4.72	
5B	73	3.1	27.027	10.65	0.95	9.27	0.03	2.08	1.20	0	0	0	0	7.88	
<u>Time:</u> 1520; Air Temp 5.6°C; Wind 12 kts; 260° Mag; Sea 2-3'; Sky clear															
6S	0-1	2.8	26.598	10.90	0.70	8.06	0.04	2.66		3	0	0	0	4.66	7'
6M	40	2.7	26.687	10.85	0.85	11.55	0.05	2.82		0	0	2	0	4.66	
6B	78	2.9	27.043	10.60	0.60	10.97	0.03	2.45	1.38	0	0	0	0	6.97	
<u>Time:</u> 1158; Air Temp 4.4°C; Wind 14 kts; 255° Mag; Sea 2-3'; Sky clear															
7S	1-3	2.8	26.576	10.90	0.85	11.56	0.04	1.78						4.62	7'
7M	42	2.7	26.679	10.70	0.80	10.76	0.04	2.26						4.05	
7B	85	2.8	27.062	10.65	0.75	9.06	0.04	2.27	1.22	0	0	0	0	9.45	
<u>Time:</u> 1548; Air Temp 5.6°C; Wind 14 kts; 265° Mag; Sea 2-3'; Sky clear															
8S	0-1	2.8	26.663	11.00	0.80	9.95	0.05	2.73						4.47	7'
8M	40	2.8	26.677	10.55	0.55	6.86	0.04	2.56						4.54	
8B	78	2.8	27.073	10.55	0.30	12.77	0.03	2.38	1.02	0	0	0	0	8.95	

Remarks:

Cruise 11 January 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1618; Air Temp 6.7°C; Wind 16 kts; 260° Mag; Sea 2-3'; Sky clear															
9S	0-1	2.7	26.860	10.95	0.70	8.27	0.03	2.08						4.32	6'
9M	40	2.7	26.857	10.70	0.55	8.86	0.04	2.08						5.54	
9B	78	2.8	27.097	10.75	0.70	11.56	0.04	1.65						5.94	
<u>Time:</u> 1650; Air Temp 6.7°C; Wind 14 kts; 265° Mag; Sea 2-3'; Sky clear															
10S	0-1	2.7	26.831	10.90	0.80	6.06	0.04	1.94						4.75	
10M	37	2.7	16.988	10.90	0.95	7.27	0.03	2.14						4.59	
10B	73	2.7	27.076	10.45	0.80	8.77	0.03	2.16		0	0			7.36	
<u>Time:</u> 1716; Air Temp 6.7°C; Wind 14 kts; 260° Mag; Sea 2-3'; Sky clear															
11S	0-1	2.7	26.652	10.65	0.80	9.85	0.05	1.82						3.82	
11M	32	2.7	26.662	10.70	0.80	12.35	0.05	1.82						3.68	
11B	63	2.9	27.063	10.45	0.30	5.97	0.03	2.08	1.80					6.69	
<u>Time:</u> 1305; Air Temp 1.6°C; Wind 14 kts; 265° Mag; Sea 2-3'; Sky clear															
12S	1-3	3.0	26.639	10.60	0.65	16.15	0.05	2.69						4.26	7'
12M	29	2.9	26.638	10.90	0.95	9.37	0.03	2.08						5.54	
12B	56	2.8	26.968	10.65	0.65	10.27	0.03	1.78	1.58	0	0			9.24	

Remarks:

Cruise 11 January 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1235; Air Temp 2.2°C; Wind 12 kts; 265° Mag; Sea 2 3'; Sky clear													
13S 1-3	2.7	26.448	10.75	0.35	15.54	0.06	2.05					3.55	6'
13M 37	2.7	26.652	10.55	0.65	10.76	0.04	1.34					5.31	
13B 75	2.8	27.014	10.40	0.30	8.06	0.04	1.95	1.24	0	0		12.45	
<u>Time:</u> 1120; Air Temp 5.0°C; Wind 14 kts; 260° Mag; Sea 1-2'; Sky clear													
14S 0-1	2.5	26.263	10.80	0.50	11.94	0.06	2.15					3.63	7'
14M 37	3.2	26.265	10.50	0.60	12.34	0.06	1.82					4.48	
14B 73	3.0	26.960	10.70	0.70	12.36	0.04	1.69					9.25	
<u>Time:</u> 1035; Air Temp 5.5°C; Wind 14 kts; 260° Mag; Sea 1-2'; Sky clear													
15S 0-1	3.1	26.595	10.50	0.30	9.36	0.04	2.08		0	0		5.32	6'
15M 25	3.1	26.582	10.70	0.60	10.55	0.05	2.90		4	4		6.47	
15B 48	3.1	26.587	10.40	0.50	9.16	0.04	1.52	1.92	0	1	0	7.15	

Time:

Remarks:

Cruise 20 March 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0925 Air Temp 5.0°C; Sky overcast; Sea 1-2'; Wind W, 15 kts															
1S	0-1	3.2	24.680	11.90	2.55	7.38	0.02	1.74						13.42	4.5'
1M	25	3.2	25.381	11.75	1.90	8.40	0.00	2.03						12.24	
1B	49	3.2	25.545	11.65	2.25	6.30	0.00	3.03						52.03	
<u>Time:</u> 1010 Air Temp 3.4°C; Sky overcast; Sea 1-2'; Wind W, 10 kts															
2S	0-1	3.0	25.365	12.55	2.45	6.78	0.02	1.73		30	29			10.00	5.0'
2M	23	3.1	25.753	12.05	2.25	9.33	0.07	1.95		29	17			9.79	
2B	45	3.1	25.743	12.20	2.30	8.25	0.05	1.89	1.64	10	3	10	3	11.36	
<u>Time:</u> 1050 Air Temp 4.9°C; Sky overcast; Sea 1-2'; Wind W, 10-15 kts															
3S	0-1	2.9	25.619	12.10	1.50	7.79	0.01	1.51						6.70	5.0'
3M	35	3.3	25.662	11.85	1.30	8.18	0.02	1.77						5.82	
3B	71	3.3	26.365	11.40	1.15	5.07	0.03	2.47	2.00	0	0			10.97	
<u>Time:</u> 1110 Air Temp 6.9°C; Sky overcast; Sea 2-3'; Wind W, 10 kts															
4S	0-1	3.0	25.568	11.90	1.40	8.60	0.00	1.51		6	4			6.55	5.0'
4M	39	3.3	25.734	11.65	1.60		0.07	1.89		4	4			5.31	
4B	79	3.3	26.374	11.30	1.15	7.58	0.02	1.90	1.58	0	1	0	1	14.43	

Remarks: NHH Tides: High - 1209; Low - 1812

A-37

Cruise 20 March 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1320, Air Temp 5.6 °C; Sky clear/sunny, Sea 1'; Wind (m)													
5S	0-1	3.1	25.635	12.20	1.55	3.58	0.02	1.51				5.89	5.0'
5M	42	3.3	25.698	11.90	1.65	7.03	0.07	1.59				5.56	
5B	85	3.3	26.373	11.10	1.00	9.47	0.03	1.95	1.02	0	0	13.14	
<u>Time:</u> 1345, Air Temp 5.0 °C; Sky, clear; Sea 1-2'; Wind, NW 8 kts													
6S	0-1	3.3	25.585	12.55	2.05	4.20	0.00	1.22		2	2	6.17	5.0'
6M	46	3.4	25.710	11.30	0.90	8.59	0.01	1.73		3	0	5.48	
6B	92	3.4	26.417	11.95	1.35	8.18	0.02	1.26	10	3	0	14.75	
<u>Time:</u> 1556; Air temp 5.4 °C; Sky, pt cloudy; Sea 1-2'; Wind (m)													
7S	0-1	3.4	25.760	13.00	2.20	4.37	0.03	0.78				5.24	6.0'
7M	50	3.3	26.049	11.60	1.70	7.67	0.03	1.52				4.38	
7B	100	3.3	26.405	11.30	1.70	6.97	0.03	1.38	0.94	0	0	12.31	
<u>Time:</u> 1510; Air Temp 5.4 °C; Sky 50% cldy; Sea 2-3'; Wind NW 10 kts													
8S	0-1	3.3	25.581	12.55	2.40	6.27	0.03	1.68				5.34	5.5'
8M	48	3.4	25.729	11.85	1.30	6.05	0.05	1.55				5.39	
8B	97	3.4	26.386	11.50	1.65	8.37	0.03	1.38	1.32	0	0	19.02	

Remarks:

Cruise 20 March 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1435 Air Temp (m); Sky p. cldy; Sea 2-3'; wind NW, 8 kts															
9S	0-1	3.5	25.804	12.40	2.00	4.14	0.06	1.29						5.57	5.5'
9M	48	3.6	26.111	11.65	1.25	8.08	0.02	1.08						4.64	
9B	97	3.6	26.468	11.20	1.00	9.38	0.02	0.78						19.26	
<u>Time:</u> 1215 Air Temp 5.3°C; Sky m. sunny; Sea 1-2'; Wind (m)															
10S	0-1	3.4	25.705	12.00	2.00	4.88	0.02	1.22						6.67	5.5'
10M	53	3.6	25.989	11.50	1.20	8.47	0.03	1.22						5.60	
10B	106	3.4	26.419	11.40	1.60	7.77	0.03	2.08						10.98	
<u>Time:</u> 1245 Air Temp 4.95°C; Sky clear; Sea 1-2'; Wind NW, 10 kts															
11S	0-1	3.2	25.427	12.25	1.75	4.77	0.03	0.66						6.74	5'
11M	42	3.4	25.799	11.60	1.50	7.97	0.04	1.59						5.57	
11B	84	3.4	26.391	11.10	1.25	9.88	0.02	1.60	1.32	0	0			8.15	
<u>Time:</u> 1800 Air Temp 4.2°C; Sky p. cldy; Sea 1-2'; Wind W, 5 kts															
12S	0-1	3.2	25.917	12.75	2.35	4.74	0.06	1.30						5.48	
12M	35	2.8	25.954	12.55	2.05	7.53	0.07	1.74						5.11	
12B	70	2.8	26.748	11.40	1.60	7.67	0.03	1.52	1.82	0	0			10.35	

Remarks:

Cruise 20 March 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1645; Air Temp 5.5°C; Sky 50% cldy; Sea 2-3'; Wind W 7 kts													
13S 0-1	3.1	25.613	12.70	2.70	4.38	0.02	1.44	1.22				5.32	5'
13M 35	2.9	25.753	12.25	2.00	6.55	0.05	1.89					4.77	
13B 70	2.9	26.334	11.50	1.25	9.39	0.01	1.74		0	0		14.78	
<u>Time:</u> 1720; Air Temp 5.4°C; Sky p cldy; Sea 1-2'; Wind W 10 kts													
14S 0-1	3.0	25.572	12.70	2.05	3.97	0.03	0.66					4.50	6'
14M 40	3.1	25.880	11.85	1.90	8.65	0.05	1.52					4.32	
14B 80	3.1	26.382	11.65	1.65	4.76	0.04	2.15					13.03	
<u>Time:</u> 1835; Air Temp 3.7°C; Sky clear; Sea 1-2'; Wind W 15 kts													
15S 0-1	2.9	25.638	13.00	2.20	3.74	0.06	0.85		3	1		6.07	
15M 28	2.7	25.809	12.20	1.80	6.35	0.05	1.29		3	1		5.23	
15B 56	2.5	26.209	11.30	0.90	7.77	0.03	1.63	2.10	0	2	0	8.13	

Time:

Remarks:

Cruise 30 April 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> at/l	Reactive NO <sub>2</sub> <sup>-</sup> at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time: 0906; Air Temp 15.9 C; Sky clear; Sea 0-1'; Wind NW 5 kts</u>													
1S	0-1	8.8	23.907	9.77	2.57	4.00	0.02	0.59				4.78	5.5'
1M	24	7.8	24.826	9.71	2.06	2.11	0.04	1.33				6.17	
1B	48	7.4	25.295	9.52	1.57	1.43	0.00	0.96				7.28	
<u>Time: 0945; Air Temp 15.0 C, Sky clear; Sea 0-1'; Wind NW 5 kts</u>													
2S	0-1	7.9	24.834	10.03	2.33	0.03	1.11			101	89	3.79	5.5'
2M	28	6.9	24.944	9.47	1.32	1.19	0.02	0.92		4	1	3.97	
2B	56	6.8	25.575	9.53	1.23	1.31	0.00	0.85	1.67	0	0	7.03	
<u>Time: 110 ; Air Temp 9.8 C; Sky clear; Sea 0-1'; Wind NW 5 kts</u>													
3S	0-1	7.7	25.016	10.04	1.59	1.39	0.00	0.70				2.23	7.5'
3M	35	7.4	25.044	10.00	1.35	1.45	0.01	0.55				2.63	
3B	70	6.1	26.032	9.26	1.06	1.68	0.03	1.44				5.60	
<u>Time: 1120; Air Temp 11.1 C; Sky clear; Sea 0-1'; Wind NW 4-5 kts</u>													
4S	0-1	7.8	24.819	10.19	1.09	1.50	0.00	0.52		2	2	2.51	7.5'
4M	38	7.6	24.884	10.01	1.51	1.38	0.02	0.73		7	1	2.53	
4B	76	6.2	26.120	9.31	1.16	1.60	0.01	0.84	0.87	0	0	5.88	

Remarks: NHH Tides: High - 0849; Low -0241

Cruise 30 April 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1210; Air Temp 11.40 C; Sky clear; Sea 0-1'; Wind NW 5 kts													
5S	0-1	8.2	24.698	10.04	1.64	1.25	0.00	0.66				2.49	7.5'
5M	41	7.8	24.965	10.01	1.46	0.97	0.00	0.59				2.48	
5B	82	6.1	26.140	9.41	1.21	1.57	0.00	1.33				6.41	
<u>Time:</u> 1230; Air Temp 11.0 C; Sky clear; Sea 0-1'; Wind NW 4 kts													
6S	0-1	8.4	24.716	10.62	1.97	0.42	0.03	0.66		1	1	2.14	7'
6M	39	7.9	25.109	10.05	1.70	0.56	0.00	0.81		1	0	1.13	
6B	78	6.2	26.166	9.38	1.33	1.66	0.02	0.66	0.87	0	0	6.65	
<u>Time:</u> 1310; Air Temp 11.8 C; Sky clear; Sea 0-1'; Wind NW 3-4 kts													
7S	0-1	8.7	24.999	9.32	0.72	0.35	0.01	0.59				2.36	6'
7M	47	8.2	25.304	10.10	1.80	0.71	0.00	0.56				1.38	
7B	95	6.5	26.295	9.40	1.40	1.68	0.02	0.86	1.67	0	0	6.92	
<u>Time:</u> 1432; Air Temp 16.3 C; Sky clear; Sea 0-1'; Wind (M)*													
8S	0-1	8.8	24.666	11.60	3.00	0.12	0.04	0.70				2.36	6'
8M	45	7.8	25.057	11.30	2.50	0.71	0.00	0.81				1.38	
8B	91	6.2	26.207	9.20	0.80	1.67	0.03	0.92				6.68	

Remarks: \* Missing

Cruise 30 April 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> at/l	Reactive NO <sub>2</sub> <sup>-</sup> at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1452; Air Temp 17.9°C; Sky clear; Sea 0-1'; Wind (M)</u>													
9S 0-1	8.8	24.741	10.75	1.95	0.75	0.01	0.66					2.21	6.5'
9M 48	7.8	25.019	9.85	1.55	0.86	0.00	0.74					1.66	
9B 97	6.2	26.016	9.50	0.65	1.29	0.02	0.96					3.20	
<u>Time: 1520; Air Temp (M); Sky clear; Sea 0-1'; Wind (M)</u>													
10S 0-1	8.7	24.723	10.10	1.30	0.98	0.00	0.50					2.40	7'
10M 42	7.3	25.090	9.50	0.40	0.94	0.01	1.03					1.46	
10B 85	6.6	26.388	9.00	1.00	1.95	0.01	0.60					7.13	
<u>Time: 1540; Air Temp 13.5°C; Sky clear; Sea 0-1'; Wind (M)</u>													
11S 0-1	8.6	24.648	10.35	1.55	0.68	0.00	0.73					2.02	7'
11M 35	7.7	24.897	10.00	0.90	1.33	0.00	0.81					1.59	
11B 70	6.1	26.040	9.05	0.80	1.63	0.00	0.70	1.24	0	0		6.24	
<u>Time: 1150; Air Temp 10.3°C; Sky clear; Sea 0-1'; Wind NW 4 kts</u>													
12S 0-1	8.1	24.670	9.85	1.10	1.34	0.03	0.59					2.13	
12M 38	7.3	24.667	10.00	1.55	1.59	0.03	0.55					2.59	
12B 76	6.1	25.942	8.60	0.45	1.53	0.03	0.52	1.28	0	0		6.32	

Remarks:

Cruise 30 April 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> <sup>-</sup> µg-at/l	Reactive NO <sub>2</sub> <sup>-</sup> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1405; Air Temp 12.3°C; Sky clear; Sea 0-1'; Wind NW 5 kts													
13S 0-1	8.7	24.668	10.45	1.65	0.59	0.02	0.44					1.71	7.5'
13M 40	7.8	25.042	9.70	1.20	0.78	0.02	0.48					0.95	
13B 80	6.2	25.795	9.75	1.45	1.54	0.04	0.96					5.31	
<u>Time:</u> 1345; Air Temp 11.6°C; Sky clear; Sea 0-1'; Wind (M)													
14S 0-1	8.6	24.584	10.65	2.00	0.94	0.02	0.08					1.98	7.5'
14M 37	7.8	25.087	9.70	1.40	0.82	0.04	1.88					0.70	
14B 75	6.3	25.957	9.05	0.40	1.39	0.04	1.11					7.23	
<u>Time:</u> 1020; Air Temp 10.5°C; Sky clear; Sea 1-2'; Wind NW 5 kts													
15S 0-1	7.9	24.747	10.05	1.55	2.72	0.04	0.53		26		24	2.33	6'
15M 31	6.8	25.184	9.35	1.15	1.23	0.02	0.26		9		1	1.89	
15B 62	6.7	25.751	9.00	0.75	1.20	0.04	0.56		0	7	0	4.98	

Time:

Remarks:

Cruise 30 May 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0910; Air Temp 23.4 C*; Sky clear; Sea Calm; Wind Calm													
1S	0-1	13.9	23.416	8.50	2.15	8.71	0.10	1.54				5.55	4.5'
1M	24	12.5	24.408	8.50	1.60	5.51	0.04	0.85				7.86	
1B	49	12.2	24.636	8.55	1.05	3.55	0.04	0.52				10.48	
<u>Time:</u> 0935; Air Temp 19.0 C; Sky clear; Sea Calm, Wind Calm													
2S	1-2	13.1	24.365	9.15	2.20	4.82	0.04	0.51		0	0	4.09	5.5'
2M	26	11.4	24.658	8.90	1.25	3.14	0.03	0.40		2	0	3.90	
2B	50	10.8	25.549	7.90	0.60	3.09	0.03	0.74	1.97	0	0	13.34	
<u>Time:</u> 1045; Air Temp 17.9 C; Sky clear; Sea 0-1/2'; Wind Calm													
3S	0-1	13.9	24.553	9.60	1.75	3.27	0.03	0.22				3.19	7'
3M	35	11.6	24.989	9.65	2.05	3.16	0.03	0.40				2.58	
3B	70	11.2	26.021	7.80	0.60	1.67	0.02	0.74				11.55	
<u>Time:</u> 1100; Air Temp 19.3 C; Sky clear: Sea Calm, Wind 1-2 kts													
4S	0-1	14.1	24.573	9.50	1.10	2.95	0.03	0.22		0	0	2.44	6.5'
4M	38	11.7	25.208	9.75	1.30	1.34	0.02	0.40		0	0	1.94	
4B	75	11.0	26.060	7.65	0.70	2.74	0.02	1.18	2.14	0	0	11.69	

Remarks: NHH Tides: High - 0911; Low-0302; \*air temperature in sun

Cruise 30 May 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1200; Air Temp 17.4 C; Sky clear; Sea calm, Wind calm													
5S	0-2	13.7	24.975	10.45	2.15	0.34	0.02	0.30				2.59	7.5'
5M	40	10.9	25.245	9.70	1.50	0.95	0.03	1.86				1.71	
5B	80	10.5	26.074	7.80	1.40	3.26	0.03	1.37				8.32	
<u>Time:</u> 1230; Air Temp 19.2 C; Sky clear; Sea Calm; Wind calm													
6S	0-1	14.2	25.006	10.20	2.00	0.20	0.02	0.14		0	0	2.19	7.5'
6M	39	11.3	25.621	8.00	1.00	2.80	0.03	0.59		0	0	1.01	
6B	78	10.7	26.071	7.50	0.85	2.62	0.03	0.78		0	0	13.66	
<u>Time:</u> 1135; Air Temp 17.6 C; Sea Calm; Wind 1-2 kts; Sky clear													
12S	0-1	13.9	24.388	9.60	1.70	2.19	0.04	0.30				3.23	6.5'
12M	36	10.6	25.171	9.50	1.50	1.29	0.03	0.22				2.61	
12B	73	10.5	25.792	7.30	0.35	3.15	0.03	0.74				9.52	
<u>Time:</u> 1013; Air Temp 19.2 C; Sky clear; Sea Calm; Wind calm													
15S	0-1	12.8	24.542	9.80	1.85	2.59	0.04	0.18		0	0	3.93	6.5'
15M	30	11.2	25.065	8.70	1.25	2.16	0.03	0.44		1	0	3.25	
15B	60	10.8	25.517	7.95	0.80	2.58	0.02	0.48	2.41	0	0	8.29	

Remarks:

Cruise 25 June 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 0947; Air Temp 20.1°C; Sky overcast; Sea 0-1'; Wind Calm</u>															
1S	0-1'	18.8	25.299	8.10	2.40	1.62	0.02	0.24						3.49	8'
1M	21	17.8	25.776	7.20	2.05	1.08	0.02	1.55						3.08	
1B	42	17.3	25.877	7.40	1.45	0.92	0.00	1.48						4.67	
<u>Time: 0934; Air Temp 20.15°C; Sky overcast; Sea 0-1'; Wind calm</u>															
2S	0-1	19.2	25.493	8.75	1.25	0.21	0.00	0.74		0	0	0	0	0.74	9'
2M	25	16.4	25.968	8.35	1.05	0.20	0.00	0.74		1	0	0	0	1.50	
2B	50	15.6	26.332	6.60	1.30	1.34	0.00	1.18	2.30	0	2	0	0	1.35	
<u>Time: 1152; Air Temp 20.8°C; Sky overcast; Sea 0-1'; Wind calm</u>															
3S	0-1	19.2	25.098	9.50	1.70	0.04	0.01	0.59						0.17	12'
3M	30	15.6	25.611	6.75	0.80	0.88	0.01	1.07						0.13	
3B	61	15.4	26.545	6.35	1.40	2.14	0.01	3.76						67.32	
<u>Time: 1050; Air Temp 19.7°C; Sky overcast; Sea 0-1'; Wind calm</u>															
4S	0-1	19.1	25.002	9.10	1.40	0.14	0.00	0.48		4	0	0	0	0.11	12'
4M	33	16.0	24.968	8.55	1.10	0.03	0.00	0.99		0	1	0	0	0.02	
4B	67	15.4	26.882	6.60	0.60	0.14	0.01	0.66	2.22	0	1	0	0	4.50	

Remarks: NHH Tides: High - 0552; Low-1108

Cruise 25 June 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1220: Air Temp 19.53°C; Sky overcast; Sea 0-1; Wind 3 kts ESE													
5S	0-1	19.3	24.926	8.15	0.90	0.03	0.01	0.66				0.22	13'
5M	35	15.9	26.475	7.35	0.45	0.14	0.01	0.86				0.48	
5B	70	15.4	27.045	6.70	0.20	1.26	0.02	1.04				5.06	
<u>Time:</u> 1245; Air Temp 19.20°C; Sky overcast; Sea 0-1'; Wind ESE 4 kts													
6S	0-1	18.9	25.038	8.55	1.30	0.01	0.01	0.66		0	0	0.46	13'
6M	40	15.5	26.209	6.70	0.70	1.94	0.00	1.34		0	0	0.94	
6B	80	15.4	27.219	6.90	0.80	1.17	0.01	1.38	1.99	0	0	4.12	
<u>Time:</u> 1315; Air Temp 19.1°C; Sky overcast; Sea 0-1; Wind ESE 3 kts;													
7S	0-1	19.1	25.177	9.40	1.50	0.13	0.02	0.40				0.29	11'
7M	47	13.9	26.308	6.95	0.65	0.54	0.01	0.86				0.47	
7B	94	14.7	27.019	6.65	0.30	1.28	0.02	1.18	2.24	0	0	2.92	
<u>Time:</u> 1332; Air Temp 24.5°C; Sky clear; Sea 0-1; Wind calm													
8S	0-1	19.1	25.073	8.50	1.25	0.00	0.02	0.30				0.30	
8M	39	14.2	26.154	6.45	0.60	2.24	0.02	1.25				0.69	
8B	79	15.3	27.195	6.75	0.70	1.76	0.01	1.18				5.65	

Remarks:

Cruise 25 June 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1558; Air Temp 24.6 C; Sky clear; Sea 0-1; Wind calm</u>															
9S	0-1	19.1	25.950	7.90*	-0.10	0.18	0.01	0.60						0.49	11'
9M	44	13.7	26.513	6.30	0.25	2.29	0.01	1.34						1.52	
9B	89	14.8	27.169	6.70	0.90	1.65	0.01	1.38						6.75	
<u>Time: 1621; Air Temp 24.5 C; Sky ptly cloudy; Sea 0-1; Wind Calm</u>															
10S	0-1	19.4	24.916	8.60	1.20	0.11	0.01	0.55						0.07	13'
10M	44	15.2	26.488	6.70	0.50	1.47	0.02	1.08						1.07	
10B	89	14.9	27.073	7.00	0.70	1.06	0.02	1.26						9.56	
<u>Time: 1645; Air Temp 21.8 C; Sky ptly cloudy; Sea 0-1'; Wind calm</u>															
11S	0-1	19.2	24.936	9.00	1.80	0.31	0.00	0.70						0.53	13'
11M	36	21.4	26.814	7.20		0.92	0.02	1.12						1.54	
11B	73	16.3	27.085	6.80	1.00		0.00	0.96	2.18	0	0			8.48	
<u>Time: 1119; Air Temp 20.4 C; Sky overcast; Sea 0-1'; Wind calm</u>															
12S	1-3	19.1	25.156	9.10	1.20	0.34	0.01	0.30						0.57	11.5'
12M	30	16.6	26.505	7.60	1.00	0.08	0.01	0.60						0.75	
12B	61	16.0	26.705	6.50	0.30	1.11	0.01	0.86	2.14	0	0			4.27	

Remarks: \* D.O. questionable. 5 day D. O. = 8. 0. mg/l

Cruise 25 June 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed	Total Coliform Water	Fecal Coliform Sed	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1437; Air Temp 20.0°C; Sky 90% overcast; Sea 0-1'; Wind calm															
13S 0-1	19.3	25.011	8.45	1.00	0.19	0.00	0.70							0.50	14'
13M 39	15.7	26.717	6.65	0.15	1.67	0.00	0.96							0.93	
13B 78	15.4	27.186	7.00	0.25	0.92	0.00	1.18							5.83	
<u>Time:</u> 1358; Air Temp 23.6°C; Sky overcast; Sea 0-1'; Wind calm															
14S 0-1	18.8	25.060			0.16	0.00	0.08							0.18	12'
14M 41	15.7	26.464	6.80	0.70	0.55	0.01	1.12							0.61	
14B 82	14.3	26.723	6.75	1.25	2.34	0.00	1.52							6.27	
<u>Time:</u> 1015; Air Temp 20.1°C; Sky overcast; Sea 0-1'; Wind calm															
15S 0-1	19.0	25.477	8.65	1.45	0.04	0.00	0.66			0	0	0	0	0.32	10'
15M 27	16.5	26.572	6.60	0.95	2.20	0.00	1.48			0	0	0	0	3.56	
15B 55	14.8	25.803	6.75	0.85	0.54	0.00	0.96	2.62	0	0	0	0	0		

Time:

Remarks:

Cruise 24 July 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 0900; Air Temp 24.7°C; Sky clear; Sea 0-1'; Wind W 2kts													
1S	Surf	20.7	24.950	7.65	2.15	0.20	0.00	1.51				4.20	6'
1M	19	20.5	25.983	6.30	1.30	0.20	0.01	1.08				5.47	
1B	37	20.1	26.165	6.20	1.95	0.23	0.02	0.92				12.46	
<u>Time:</u> 0930; Air Temp 22.0°C; Sky clear; Sea 0-1'; Wind WSW 2 kts													
2S	0-1	20.7	25.968	7.65	1.90	0.12	0.00	0.86		0	0	3.32	6.5'
2M	21	19.6	26.021	8.00	2.25	0.06	0.00	0.57		1	1	2.77	
2B	43	18.2	26.421	4.40	0.65	0.61	0.00	1.34	2.07	0	4	0	5.63
<u>Time:</u> 1036													
3S	1-2	21.8	25.528	8.50	1.20	0.02	0.00	0.26				0.68	
3M	32	17.2	26.343	5.65	1.45	0.06	0.00	0.72				0.73	
3B	62	17.0	26.841	4.40	0.40	1.31	0.02	0.74				3.99	
<u>Time:</u> 1055													
4S	Surf	21.7	25.458	8.95	2.00	0.05	0.01	0.26		0	0	1.23	
4M	32	17.8	26.785	4.45	0.50	0.70	0.02	0.82		1	0	1.16	
4B	64	17.8	26.873	4.50	0.30	0.96	0.04	0.78	2.78	0	0	3.54	

Remarks:

Cruise 24 July 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1142</u>													
5S	0-1	21.7	25.461	8.80	1.65	0.02	0.00	0.40				1.68	
5M	35	17.7	26.792	4.35	0.30	0.52	0.02	1.18				0.89	
5B	70	17.7	26.932	4.55	0.05	1.06	0.02	0.52				2.67	
<u>Time: 1204</u>													
6S	0-1	21.4	25.525	9.05	2.60	0.08	0.00	0.34		0	0	2.01	
6M	40	18.3	26.732	4.40	0.45	0.27	0.00	0.96		0	0	1.15	
6B	80	18.3	27.004	4.65	0.00	1.19	0.02	1.27	2.14	0	4	0	2.38
<u>Time: 1237</u>													
7S	Surf	21.7	25.302	8.60	2.00	0.03	0.01	0.59				1.18	
7M	47	17.8	25.872	4.70	0.70	0.10	0.00	1.03				1.27	
7B	94	17.7	27.045	5.05	0.15	1.38	0.03	1.30	2.09	0	0	2.31	
<u>Time: 1402</u>													
8S	0-1	21.6	25.387	9.00	1.80	0.06	0.00	0.52				1.48	
8M	42	17.6	26.924	4.65	0.00	0.86	0.02	1.00				0.66	
8B	85	17.6	27.083	5.00	0.00	1.10	0.02	1.22				2.94	

Remarks:

Cruise 24 July 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Sed Water	Suspended Load mg/l	Secchi Disk
<u>Time: 1425</u>													
9S	1-2	22.0	25.259	9.15	1.85	0.01	0.01	0.40				0.92	
9M	44	17.9	26.855	4.65	0.00	1.23	0.02	1.22				0.62	
9B	88	18.2	27.268	5.60	0.20	0.55	0.02	0.93				3.92	
<u>Time: 1448</u>													
10S	1-2	22.3	25.326	9.15	2.55	0.18	0.01	0.40				1.69	
10M	38	17.8	26.673	4.55	0.25	0.22	0.01	1.18				0.51	
10B	76	18.2	27.198	5.65	0.25	0.73	0.02	0.86				4.52	
<u>Time: 1515</u>													
11S	0-1	22.1	25.450	9.65	2.65	0.13	0.00	0.40				1.56	
11M	36	18.2	26.824	4.80	1.00	0.23	0.02	0.92				1.52	
11B	72	18.3	27.068	5.00	0.10	1.04	0.02	0.74	2.05	0	0	3.47	
<u>Time: 1120</u>													
12S	1-2	21.9	25.608	9.00	3.95	0.10	0.00	0.34				0.76	
12M	32	17.7	26.699	4.95	1.10	1.23	0.01	1.48				1.94	
12B	64	17.7	26.747	4.20	0.40	1.06	0.03	1.12	2.14	0	0	6.81	

Remarks:

Cruise 24 July 1973 NHH

Sample	Depth Ft.	Temp. °C	Salinity ‰	D.O. mg/l	B.O.D. mg/l	Reactive NO <sub>3</sub> µg-at/l	Reactive NO <sub>2</sub> µg-at/l	Ortho- phosphate µg-at/l	Sediment B.O.D.	Total Coliform Sed Water	Fecal Coliform Water	Suspended Load mg/l	Secchi Disk
<u>Time:</u> 1338													
13S 0-1	21.9	25.610	9.00	2.10	0.01	0.01	0.30					0.87	
13M 39	18.3	26.876	4.75	0.45	0.73	0.02	1.08					0.48	
13B 79	18.2	26.968	4.60	0.00	1.10	0.04	1.30					3.42	
<u>Time:</u>													
14S 0-1	22.0	25.696	8.95	2.30	0.10	0.00	0.48					1.00	
14M 35	17.9	25.815	7.30	1.25	0.08	0.00	0.40					1.38	
14B 70	18.4	26.842	4.30	0.30	1.32	0.02	1.22					5.75	
<u>Time:</u>													
15S 1-2	20.9	25.936	8.00	1.85	0.15	0.00	0.52		0	0	0	1.30	
15M 27	17.8	26.334	3.70	1.00	0.37	0.01	1.26		0	2	0	0.89	
15B 52	17.3	26.433	3.35	0.35	1.11	0.02	1.22	2.57	0	3	0	4.65	
<u>Time:</u>													

Remarks: